A Clinical Lecture

ON

A CASE OF GALL-STONES IN THE COMMON DUCT CAUSING SIMPLE INFECTIVE CHOLANGITIS.

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GENTLEMEN,—The case I want to bring before you is a very long one, so I have abbreviated the excellent report by Mr. W. P. Ker. A married woman, aged thirty years, was admitted into Mary Ward on July 20th, 1898, for pain in the right side of the abdomen, vomiting, and a temperature of 103·2° F. Her history did not begin to be important till eight months before, when she had a severe attack of pain in the right side of the abdomen and back. Three weeks before admission she had a similar attack, this time accompanied by jaundice and very light-coloured motions. One week later she had a third attack and since then she has had repeated attacks of pain and vomiting, accompanied by high temperature. During this fortnight her motions have been clay-coloured, she has sweated profusely, has had some shivering, and has felt very ill. On admission she was found to be slightly jaundiced; her temperature was 103·2°, her pulse was 104, and her respirations were 40. She was very thirsty. Her bowels were regular and the stools were light-coloured. The liver reached nearly to the umbilicus; it was uniformly enlarged, firm, tender, and smooth. There was a very tender point to the right of, and slightly below, the umbilicus. At this spot we thought there was an ill-defined swelling which might have been a gall-bladder, but we were not certain about it. The respiratory, circulatory, nervous, and generative systems did not present any symptoms to call for comment. The urine contained some bile, otherwise it was healthy. She was obviously in great pain. Soon after admission she had a rigor. She had had three shortly before admission. The diagnosis made was that the patient was suffering from gall-stones which being in the common duct caused the jaundice and enlarged liver, and that they, damaging the mucous membrane of the duct, had set up general infection through the branches of the portal vein which return blood from the walls of the duct. Hot fomentations were applied over the liver. The patient was given a little brandy, some lemon juice and barley water, and milk and bread-and-butter. On July 22nd there had been no further rigors, the temperature had ranged about 100°, the jaundice was less, and the liver was smaller and less tender. As a result of an enema she passed three small facetted gall-stones. On the 23rd her condition was about the same as in the last note except that her temperature was about 103·4° on this date. On the 25th she was much better. The liver was smaller, the jaundice was not visible, and the pain and tenderness were less. The temperature was normal. She continued to steadily improve and had a nearly normal temperature till August 6th, when she had another rigor and the temperature rose to 102·8°; we thought that day that the gall-bladder could be felt to be enlarged. In spite of the rigor she had very little pain and tenderness over the liver. On the 9th she had another rigor. The temperature this time was 101·6°. From this date until August 31st she had very irregular temperature; usually it was normal or below normal in the morning and rose to between 101° and 104° in the evening. Often this rise was accompanied with rigors, but they were never severe. More often, however, she simply complained of feeling cold all over; occasionally she was sick. She was not jaundiced during these three weeks nor was there much tenderness over the liver, and this organ was not so large as before. In spite of this long-continued severe pyrexia she maintained her ground fairly well although she sweated and looked ill. On the 30th she passed three fair-sized gall-stones. On Sept. 6th she was much better. On that day she passed some large gall-s ones, the largest being of the size of a cherry-stone. On the 11th she had an attack of pain over the region of the gall-bladder. This part of the abdomen was so tender that nothing could be made out on palpation. On the 17th she had another attack of severe pain in the same region. Her temperature at the same time rose to 102·6°. On that morning a large three-cornered gall-stone was found in her motions. The liver was rather enlarged again, reaching down to the umbilicus. On the 26th she had another rigor and an attack of pain. On Oct. 1st she had another rigor, an attack of pain, and a rise of temperature to 102°. On the 3rd the patient passed two gall-stones, one of which was the largest she had ever passed. On the 8th the patient got up. From this time until the 16th she did uniformly well. She went out on the latter day. Her liver then reached to 1½ in. above the umbilicus, she was in no pain, and she had no tenderness over the gall-bladder. She looked quite well, and in spite of her attacks of pain and her rigors she had been gaining ground steadily since Sept. 1st.

No special treatment was adopted. Hot fomentations, morphia injections, and slight inhalations of chloroform were used to relieve the pain. She was given plenty of light nourishing food and she was always enticed by variations of diet to eat as much as possible. Usually she was taking some gastric carminative stimulant medicine and her bowels were always kept thoroughly open. During part of her illness some anti-streptococcic serum was used, but it was left off as it had no beneficial effect.

I think the easiest way for us to handle this case will be to first of all consider what could be the cause of the jaundice. You will find enormously long lists given of the causes for jaundice, but in actual practice it is in adults nearly always due either to (*a*) the disease called catarrh of the ducts or simple jaundice; (*b*) cirrhosis; (*c*) cancer of the glands in the portal fissure or of the head of the pancreas; (*d*) some specific fever, usually yellow fever, ague, more rarely acute yellow atrophy, or epidemic jaundice; (*e*) phosphorus poisoning; (*f*) congestion of the liver, in this country, at least, due to backward pressure from the heart or lungs; and (*g*) gall-stones in the common duct. From time to time we see patients suffering from jaundice due to other causes, as in the man we had in the hospital some time ago in whom it was due to a moveable kidney, but they are so rare as to be mere curiosities.

Now our patient was far too ill to be suffering from (*a*) catarrhal jaundice; in this disease the patient is not very ill, he has indigestion and jaundice with very little pain, and is in a few days quite himself again. Probably the disease is due to catarrh of the duodenum spreading into and closing the duodenal orifice. Although both cirrhosis and cancer of the liver, especially cancer, may be accompanied by a raised temperature it is never so high in cirrhosis as it was in our patient, and it would be quite exceptional to find so much pyrexia in cancer, although some striking instances are recorded by Osler. But our patient was very young for cancer, there were none of the other signs of it, and the pain from which she suffered was not at all like it. Specific fevers of this country are very rarely accompanied by jaundice; there was no evidence that she had been anywhere where she could contract ague, and her whole illness was unlike it. She had not got phosphorus poisoning and she had no cause for congestion of the liver, so you see that by a process of exclusion we were able quickly to arrive at the diagnosis that she was suffering from gall-stones, a view which was confirmed by the history of paroxysmal attacks of pain in the region of the liver. Indeed, her account of them showed that they were so severe and constant in position that in a woman they were of themselves almost enough to establish a diagnosis of gall-stones.

You will notice that I have drawn no distinction between obstructive jaundice and non-obstructive. My reason is that the exact mode of production of jaundice is often so obscure that it is, I think, better at the bedside not to draw such a distinction, for it may lead you into error. In many instances there is undoubtedly an obstruction, but in some it is very doubtful whether there is; probably in some forms of jaundice, as, for example, that associated with malaria, the yellow pigment is produced in the blood; but we must to-day keep to the clinical side of the case.

The other point to which I have not alluded is the statement made by the patient that the stools were light. Patients are such bad observers, shades of colour are so difficult to describe, and the stools vary naturally so much in colour that you should give very little weight to a statement about the colour of the stools. Always examine them yourselves and even then remember that they may be very pale, especially if much milk be taken, quite apart from any

obstruction to the flow of bile. Before you can decide from them that probably the bile-duct is obstructed they ought to be of a light clay colour, hard, and usually foul-smelling.

Gall-stones are very common. The figures from the Strasburg Hospital show that 20·6 per cent. of all the female bodies examined contained them. They are especially common in married women and are very frequent in the decade from thirty to forty, so that you see they are very common in people of the age, sex, and condition of our patient. Fortunately, however, the sufferers from them do not often suffer as our patient suffered. Usually they have attacks of pain more or less severe, and then as they grow older the attacks cease. Any of you who have attended necropsies regularly will bear me out in the statement that it is very rare to see death attributable to gall-stones, but it is also rare for elderly persons to complain of the symptoms produced by gall-stones, so we may conclude that, as a rule, either the stones are passed or they remain quiescent in the gall-bladder, and in favour of the latter statement is the well-known fact that they are frequently found in the bodies of those in whom they were quite unsuspected during life.

In passing I should like you to notice that our patient's account of her earlier attacks of pain was very typical, for she made it quite clear to us that her pain was agonising, sudden in onset, paroxysmal, and situated in the hepatic region. She, like other women, said that it was worse than the pain of labour. With her, as is usually the case, it lasted a few hours.

The next fact I want to bring before you is that the passage of a stone along the common duct not only frequently gives rise to an ordinary attack of biliary colic and transient jaundice, but, as shown in our patient's earlier and late attacks, these two symptoms may be accompanied by a rigor and a rise of temperature. Ordinarily the temperature is only raised a short time, the stone passes, and the patient is well. The cause of the rise of temperature in these cases is unknown. Generally it is thought to be reflex, and I have given you, when lecturing on pyrexia, other instances in which severe stimulation of the peripheral nerves will lead to pyrexia. Perhaps some day these attacks will be shown to be due to a micro-organism infecting from the bile passages and be merely a slight degree of what will be described directly as simple infective cholangitis; if so, they are so much slighter that their clinical importance is quite different.

But the gall-stones in our case caused the patient to look ill, and she had prolonged pyrexia, the temperature in a few hours rising from normal to a considerable height, many rigors, attacks of sweating, vomiting, and an enlarged tender liver, in addition to her pain and jaundice. Gall-stones may produce these symptoms in the following ways: (*a*) The stone may set up inflammation of the duct with subsequent ulceration or perhaps the formation of a local abscess. Pyæmic infection may follow because the venous blood from the wall of the duct is returned into the portal vein, and as a result multiple small pyæmic abscesses in the liver may be formed. This condition of portal pyæmia is always fatal. (*b*) Stones in the common duct may cause pain, jaundice, sometimes severe, but often slight and variable (in which case we must suppose the duct is not completely blocked), an enlarged and tender liver, rigors, sweating, vomiting, and pyrexia lasting for many days without the formation of secondary abscesses in the liver. The probable explanation is that in these cases also there is inflammation of the mucous membrane of the common duct with subsequent infection, but if this is the right explanation it is a different kind or degree of infection from that which leads to multiple small abscesses in the liver, for patients may for many years be subjected to attacks like that of our patient. We may, provisionally at any rate, speak of this group as cases of gall-stones of the common duct accompanied by simple infective cholangitis which will distinguish them from cases with pyæmic abscesses and cases of suppurative cholangitis. Both streptococci and bacilli coli are so very variable in virulence that either may well be the cause of groups (*a*) and (*b*). (*c*) The gall-stone may set up suppurative inflammation of the common duct which quickly spreads back and all the ducts in the liver become full of pus; this condition is called suppurative cholangitis. (*d*) The gall-stone in the common duct might have been producing only jaundice and the other symptoms might have been due to an abscess in connexion with some other stone; for example, there might have been an empyema of the gall-bladder in connexion with a stone in it or in the cystic duct.

When our patient came in, ill as she was, she did not seem ill enough to be suffering from suppurative cholangitis, and although we thought that the gall-bladder was tender and perhaps enlarged we did not think the enlargement definite enough, or the tenderness great enough, for there to be pus in it, and we could find no evidence of an abscess elsewhere, so we concluded that either she was in the early stage of (*a*) portal pyæmia due to gall-stones in the common duct, or that she was suffering from (*b*) simple infective cholangitis due to gall-stones in the common ducts. As I repeatedly pointed out to you at the bedside the difference between the two diagnoses was probably only one of degree; in both cases we believed that infection was taking place from the mucous membrane of the common duct and therefore we often spoke of her loosely as suffering from portal pyæmia, but kept the two above possibilities (*a*) and (*b*) before us.

Some of you asked me what the word "cholangitis" meant. It simply means inflammation of the mucous membrane of any of the biliary passages; therefore the word is allied to such words as "gastritis," "enteritis," &c. The word is coming very much into use. It sounds a little uncouth, like most of the modern terminology connected with the bile passages. Fancy how pleased the old woman who liked the word "Mesopotamia" would be if you told her that she had "cystic cholelithiasis associated with infective cholangitis, that if an operation was necessary you could either do cholecystotomy, or cholecystendysis, or cholecystectomy, or cholecystenterostomy, or cholecystolithotripsy, or choledocholithotomy, or choledochostomy, or choledochoenterostomy, or choledocholithotrity, or choledochectomy, or choledochotomy, or choledochoduodenostomy, or cysticolithotomy."

You will remember that on July 22nd the patient passed three gall-stones and that from July 25th to August 6th she was pretty well with a normal temperature. This went a long way to confirm our diagnosis that the gall-stones had caused simple infective cholangitis. From August 9th to August 30th she had such high, irregular temperature that we often feared that after all the gall-stones had set up portal pyæmia with small abscesses in the liver; the only thing against this view was that she did not lose ground so much as would have been expected if it were correct. She improved so much during September that it was quite clear she never had had pyæmic abscesses in her liver and that the diagnosis of simple infective cholangitis due to a gall-stone in the common duct was correct, and the illness during August shows you how severe this infection may be. Whether you should regard the rigors and transitory rises of temperature associated with the passage of gall-stones which occurred during September as mild instances of the same infective process is open to question, but clinically there is no doubt that they are examples of the fact that I have already pointed out to you that the passage of gall-stones will often cause a rigor and transient rise of temperature.

The disease from which our patient suffered—namely, gall-stones in the common duct accompanied by simple infective cholangitis—is fortunately not common. There is a very good collection of eight cases by Dr. Osler in the Johns Hopkins Hospital Reports for January, 1890. I have already given you the symptoms and we will now consider them in detail. The jaundice is usually deep, and, like all long-lasting jaundice, gradually gets darker as time goes on; sometimes, however, as in our patient, it is only slight. Whatever its maximum depth it varies much in intensity from time and may, as in our case, go altogether. Generally when a rigor or chill comes on it deepens considerably, but this was not so with our case. These variations in intensity are difficult to explain, for the stone is always present and in most of the cases some bile must get past it. Possibly the variations are due to variations in the swelling of the mucous membrane near the stone. The jaundice may last for years and it may be accompanied by any or all of the phenomena due to the circulation of bile in the blood. The pyrexia occurs in paroxysms usually associated with rigors. The temperature rises suddenly, sometimes as high as 105°. The patient feels cold, often shivers very severely, her skin is dry, but in the course of a few hours it becomes moist, she sweats profusely, and the temperature falls as quickly as it rose. The paroxysms generally occur at irregular intervals and Dr. Osler says he has seen them recur daily for a week or ten days; but ours was a more severe case, for in the worst group of attacks they occurred daily,

sometimes two a day, for three weeks continuously. In very mild paroxysms a slight rise of temperature, a feeling of chilliness or sweating may either of them occur alone. Even when the attacks are severe the intervals between single paroxysms or groups of paroxysms may be several days or weeks so that the whole illness may be spread over months or years. Pain is nearly always present. Sometimes it is severe and agonising genuine hepatic colic. In other cases it is very slight, and, as in our patient, it may be very severe during some attacks and not in others. Vomiting often accompanies an attack. Our case illustrates this. There may be nausea and a furred tongue. The liver is generally uniformly enlarged, smooth, and tender. Our case exemplifies this and appears to show that the gall-bladder may be enlarged and tender. It is very noteworthy that the patients do not lose flesh much and quickly recover from their attack. This was very noticeable in our case.

You must bear in mind that the common duct may be completely obstructed by a gall-stone or stenosis for many months without producing the train of symptoms here described. On the other hand, it is said that simple stenosis may cause them.

You see here the gall-stones which this woman passed, and it must at once strike you as impossible for them to get through the narrow orifice by which the duct opens into the duodenum, but you will remember that the duct lies in the wall of the duodenum for ¾ in.; what happens is that the stone lying in this position ulcerates into the duodenum. When once this has occurred other stones can easily pass through the opening.

I do not think that in England there ought to be much difficulty about diagnosis from most other diseases, but in countries where severe malaria is common, and especially where it makes the patients yellow, the diagnosis may be very difficult, for the paroxysms and shiverings which characterise the disease which we are discussing very closely resemble ague, and, indeed, the diagnosis has sometimes been only satisfactorily made after finding the malarial parasite in the blood. But it may be very difficult to tell whether the gall-stone is setting up merely a simple infective cholangitis, suppurative cholangitis, or portal pyæmia, for the diagnosis will rest upon the correct estimation of the severity of the symptoms. A very good example of this difficulty occurred in a woman, aged sixty years, whom I saw with Mr. A. G. Wells. She had rigors, an irregular high temperature, jaundice, a tender liver, and was desperately ill. The position was explained to her friends and in the faint hope that it might turn out to be simple infective cholangitis and that it might be possible to remove a stone Mr. Arbuthnot Lane opened the abdomen, but could not reach the common duct because the parts were so matted from old local peritonitis due to gall-stones. At the post-mortem examination I found the liver studded with pyæmic abscesses, a stone in the common duct, the biliary passages inflamed, and the lining membrane in places gangrenous.

The treatment of the patient the subject of this lecture gave rise to much discussion. Many urged that if I thought there was a stone in the common duct setting up simple infective cholangitis I ought to have suggested an operation, but the following reasons prevented my doing this. If the case had been portal pyæmia or suppurative cholangitis, both of which were possible, an operation could do no possible good; if, on the other hand, the case were one of simple infective cholangitis we could safely wait to see what course the malady would take, for this disease is very chronic, and, bad as our patient was, she never, as far as her general strength went, appeared to lose ground. Then, too, it is a very difficult operation, especially when the liver is very large, to remove a stone from the common duct. In the case I have just mentioned matting prevented Mr. Lane from even reaching the common duct. Out of Dr. Osler's 8 cases 2 were operated upon and both died. Waring quotes Jourdan, who says that out of 72 cases operated upon and published up to 1895 22 died, and when you remember the inevitable tendency for more successful than unsuccessful cases to be published I should think that represents a mortality of about 50 per cent. Then, again, gall-stones are usually multiple and even if you remove the offending one and any there may be in the gall-bladder others will probably be formed later and passed down the duct. So that while I would most certainly not say that operation is never desirable it is very important that you should hesitate for some time before embarking upon such a very difficult and dangerous operation. Probably you never ought to do it if the patient is keeping her ground, for there is always the possibility that she may pass the gall-stones into her duodenum. That fortunate result occurred in our case, and when you see the size of the stones she has passed you will agree with me that her common duct is now probably sufficiently large to admit of the passage of subsequent stones, and as she wrote to me only yesterday and appeared from her letter to be in good health and able to be up and about at her household duties you will see the justification of our not having advised operation. Since she left the hospital she has passed one other gall-stone without much difficulty. The course we adopted of relieving pain, keeping her bowels open, and maintaining her strength appears to be justified by Dr. Osler's figures, for of his 8 cases 2 died after operation, 2 died from the effects of long-continued jaundice, 3 recovered without operation, and 1 passed out of observation.

To sum up, while I am far from saying that you should never advise operation you should always watch the case before advising it, and do not advise it if the patient is not losing ground. If you recommend it and it rests with you to select the surgeon do not do the operation yourself unless you are a skilful surgeon, for it may be very difficult. Want of time prevents to-day a proper discussion of the best means of preventing for the future the formation of gall-stones in our patient.

THE RESULT OF THE TREATMENT OF DIPHTHERIA BY ANTITOXIN IN LONDON COMPARED WITH THAT IN PARIS AND BERLIN.

BY LOUIS COBBETT, M.A., M.B. CANTAB., F.R.C.S. ENG.

IT may appear to some unnecessary at the present time to discuss the evidence of the utility of diphtheria antitoxin. Yet I think that no one who is aware how unfavourably the death-rate and the case mortality of diphtheria in London compare with those of the great continental cities will deny that some inquiry is desirable. The first attempts to cure diphtheria in human beings with the serum of immunised animals were made in 1891 and failed because the antitoxic power of the serum was too small. It was not until 1894 that antitoxin strong enough to produce a marked effect was obtained. Early in that year reports of cases treated by the new remedy were published in Berlin. Some months later the serum treatment received its great impulse from Roux's memorable address to the International Congress of Hygiene and Demography at Budapest, and the serum treatment may be said to have generally commenced in the great cities of Europe from that time. The statistical returns from hospitals and other sources which have appeared since show a very remarkable reduction in the fatality of diphtheria.[1] But several more or less weighty objections have been made to concluding that the new treatment has been the cause of the improvement.

In the first place, it has been argued that the bacterial method of diagnosis which was introduced about the same time as the antitoxic treatment has caused a considerable increase in the number of cases reported as diphtheria, the increase consisting chiefly of cases which, without the aid of the new test, would have been regarded as cases of simple sore-throat. But it must not be forgotten that the new test has also eliminated a considerable number of cases of membranous pharyngitis which previously would have been regarded as diphtheria. On this point Professor Welch concludes that the new test has on the whole excluded more mild cases than it has admitted.

In the second place it has been said of hospital statistics that the smaller fatality of diphtheria which they show in recent years may be accounted for on the supposition that the fame of the new remedy has attracted more patients to the hospitals, with the result that the average severity of the

[1] In 1895 Professor Welch of Baltimore collected 82 reports dealing with a total of over 7000 cases treated with antitoxin, of which the average fatality was 17·3 per cent. In 45 of these reports the previous or simultaneous fatality was given and averaged 42·1 per cent. (The Treatment of Diphtheria by Antitoxin, Transactions of the Association of American Physicians, vol. x.)

cases admitted has declined. This is certainly not true of the Berlin hospitals, as a glance at Table II. will show. For there the ratio of the cases treated in the hospitals to those occurring in the whole of the city has not increased since the introduction of the serum treatment. On the other hand, the ratio of admissions for diphtheria into the hospitals of the Metropolitan Asylums Board to notifications in the whole of London has considerably increased. Nevertheless, the severity of the cases treated there does not seem to have lessened. For the medical superintendents reported[2] that in their opinion the average severity of the cases treated in 1895 was about equal to that of those treated in 1894, the death-rate in that year having been slightly lower than that of any previous year; and that "during 1896 a larger proportion of children under five and ten years and of cases admitted on the fourth day or later have been under treatment than was the case in 1895, so that, other things being equal, a heavier mortality was to be expected." Again, "the years 1895 and 1896 were somewhat worse off than 1894—viz., in the proportion of cases in which laryngeal symptoms were present before admission to the hospital, the percentage of such cases on the total admissions being—in 1894, 11·4; in 1895, 15·1; and in 1896, 13·5."

In the third place it has been suggested that the introduction of the new treatment has been followed by a succession of years during which the disease has been of a mild type. In answer to this the opinion of the medical superintendents may be again cited as to the type of diphtheria recently prevalent in London. But even if it had been so it would probably not have affected the hospital statistics to any great extent. For when diphtheria is of a mild type a larger proportion of cases remain at home than when it is severe, so that the average severity of the hospital cases remains fairly constant.

In 1894 Roux, Martin, and Chaillou[3] reported 300 cases treated with antitoxin in the Hôpital Trousseau, in Paris, with a fatality of 26 per cent. During the period referred to in the report the fatality of the Hôpital des Enfants-Malades, where the antitoxin was not used and where the fatality in diphtheria had always approximated very closely to that of the Hôpital Trousseau, was 60 per cent. Baginsky[4] reported 525 cases of diphtheria in children treated in the Kaiser und Kaiserin Friedrich's Hospital for Children in Berlin between March 15th, 1894, and March 15th, 1895, with a fatality of 15·6 per cent. In the middle of this period, during the months of August and September, the supply of antitoxin entirely failed, with the result that the mortality rose higher than it had been before the new treatment was introduced—viz., to 48·4 per cent. The same failure in the supply of antitoxin caused a similar involuntary experiment to be carried out at Prague, Vienna, and Trieste, with the result that the fatality which fell during the period of antitoxin treatment to 12·7, 22, and 18·7 respectively, rose again during the interval when no antitoxin could be procured to 53, 65·6, and 50 per cent.[5] In the Charité, in Berlin,[6] during the eight years which preceded the antitoxin treatment the fatality rate of diphtheria was over 50 per cent., while during the 4-year period from March, 1894, to March, 1898, the rate was under 16 per cent. Moreover, although the admissions during this latter period had increased by about 50 per cent., yet the absolute number of deaths fell from 316 in 1886–90 and 308 in 1890–94 to 134 to 1894–98.

TABLE I.—*Admissions for, and Deaths from, Diphtheria in the Charité Children's Hospital, Berlin, and in all the Berlin Hospitals.*

—	Period.	Admissions.	Deaths.	Mortality per cent.
Charité, Berlin... ...	1886–1890	603	316	52·0
	1890–1894	564	308	54·6
	1894–1898	842	134	15·9
All the Berlin hospitals...	1886–1889	6,442	2,302	35·7
	1890–1893	8,080	3,106	38·4
	1894–1897	10,026	1,823	18·2

[2] Reports upon the Use of Antitoxin in the Hospitals of the Metropolitan Asylums Board, 1895 and 1896.
[3] Annales de l'Institut Pasteur, September, 1894.
[4] Die Serumtherapie der Diphtherie, Berlin, 1895.
[5] Welch, loc. cit.
[6] Kossel: Deutsche Medicinische Wochenschrift, No. 15, 1898, p. 229.

In all the Berlin hospitals[7] the percentage mortality of diphtheria, which was 35·7 in 1886–89 and 38·4 in 1890–93, fell to 18·2 in 1894–97. In 1896 and 1897 it was only 13. Moreover, in spite of increased admissions the total number of deaths for each of the three periods of four years each was 2302, 3106, and 1823. Much might be added, but enough has been said to show that the fatality of diphtheria in the hospitals of some of the great cities of the continent has very considerably diminished since the introduction of the serum treatment.

Turning now to the London hospitals we find that there has been a very satisfactory diminution in the fatality of diphtheria in the hospitals of the Metropolitan Asylums Board, and that, as already pointed out, there is no reason to attribute this diminution to any falling off in the average severity of the cases treated. I shall briefly refer to that part of the evidence as to the influence of the new treatment contained in these reports which seems to me to be least open to criticism, and for this purpose I have drawn up the following table (Table II.).

TABLE II.—*Number of Deaths from Diphtheria per 100 Case in the Metropolitan Asylums Board Hospitals, both those Treated with Antitoxin and those not.*

—	1894.	1895.	1896.	1897.
Treated from the first day of the disease	22·5	11·7	4·7	—
Treated from the second day of the disease	27·0	12·5	12·8	
Total	29·6	22·5	20·8	17·5
Laryngeal cases...	62·0	50·6	29·6	30·9
Tracheotomies	70·4	57·7	42·5	41·0
	1890–1894.			
Post-scarlatinal diphtheria, laryngeal cases	60·80	—	22·7	8·4

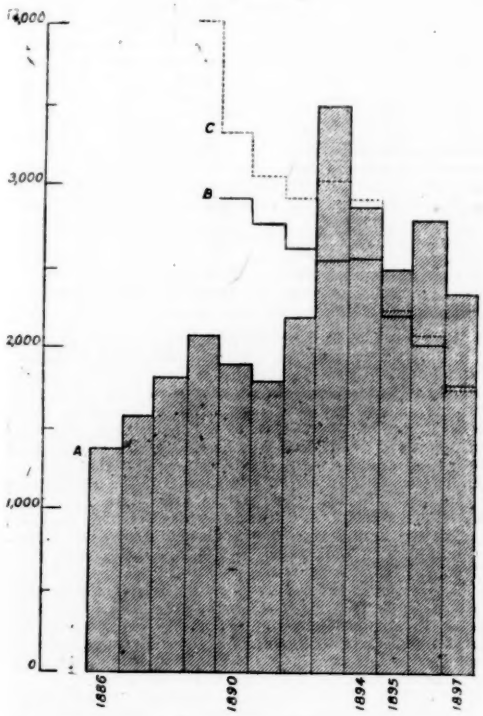
The considerable fall in the fatality of the cases treated from the first and second day of the disease in 1895 and 1896 as compared with those treated in 1894 cannot, I think, be attributed to any other cause than the introduction of the new treatment. It is probable that the classification according to the days of disease upon which the treatment was commenced is not quite accurate. But it is certain that the treatment did not commence at an earlier period than that stated, and consequently if it were possible to correct these figures the evidence which they would then afford would probably be still more strikingly in favour of the antitoxin treatment. This is borne out by the records of post-scarlatinal diphtheria, of which the day of commencement could be accurately determined because the disease attacked patients already under observation. In 1896 the fatality of 250 of these cases treated from the first day and of 163 cases treated from the second day was 2·3 and 3·6 per cent. respectively.

The remarkable fall in the mortality of all cases of post-scarlatinal diphtheria from over 50 per cent. in the five years which preceded the antitoxin treatment to 5 and 3·7 per cent. in 1896 and 1897 respectively cannot be entirely put to the credit of the remedy, for it is admitted that the bacterial test has enormously increased the number of mild cases which are now recognised as post-scarlatinal diphtheria.[8] But the fact that the *total number* of deaths among these cases fell from over 48 per annum in 1890–94 to 35 in 1896 and 29·452 in 1897 can fairly be ascribed to the treatment, as can also the fact that the mortality of all the laryngeal cases in this group fell from 60 to 80 per cent. in the years preceding 1895 to 22·7 in 1896 and 8·4 in 1897.

The statistics of laryngeal diphtheria afford perhaps the surest evidence of the influence of treatment, for these cases form a class of which the mortality rate is but little affected by the inclusion or exclusion of a variable number of mild cases in consequence of alteration of the criteria of diagnosis. No doubt they are relatively more frequent in severe epidemics than in mild ones, yet the average severity of the cases which constitute this class remains nearly constant. It is therefore very satisfactory to find that the

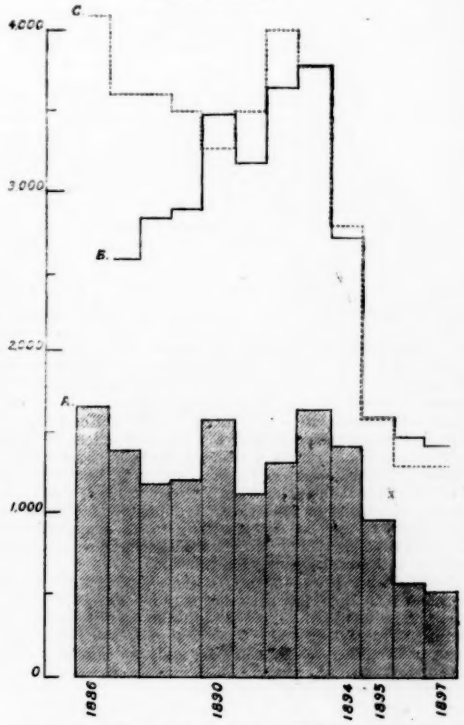
[7] Ibid.
[8] Between 1890 and 1894 the average yearly number of post-scarlatinal cases was 96·4. In 1896 it had risen to 695 and in 1897 to 796.

FIG. 1 (LONDON).



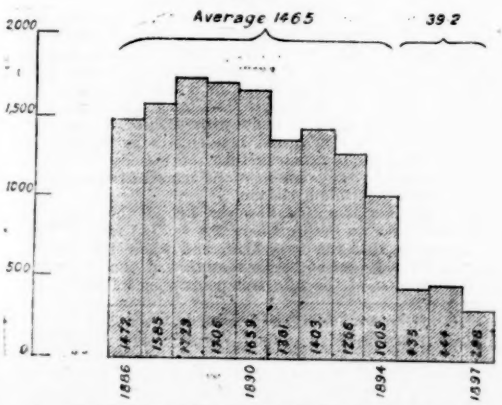
A, Annual number of deaths from diphtheria and croup registered in London and in the hospitals of the Metropolitan Asylums Board situated outside London. *B*, Annual number of deaths per 10,000 notifications. *C*, Annual number of deaths in the Metropolitan Asylums Board hospitals per 10,000 admissions.

FIG. 2 (BERLIN).



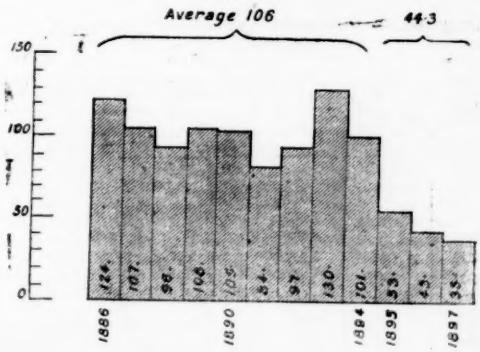
A, Annual number of deaths from diphtheria registered in Berlin. *B*, Annual number of deaths per 10,000 notifications. *C*, Annual number of deaths in all the Berlin hospitals per 10,000 admissions.

FIG. 3.



Annual number of deaths from diphtheria and croup in Paris.

FIG. 4.



Annual number of deaths from diphtheria per 10,000 inhabitants in 266 German towns with a population of over 15,000.

mortality rate of all laryngeal cases has fallen 50 per cent. since 1894, that the necessity for tracheotomy is less frequent, and that the mortality rate of those cases which still require operation has fallen from 70 to 41 per cent.

But while the hospital returns of this and of other countries afford such remarkable evidence of the benefits of the antitoxin treatment of diphtheria I have all along felt that the case for the new remedy would not be complete until the annual number of deaths from this disease in great towns and other large areas should have shown a well-marked and lasting decline. I say a lasting decline because, as is well known, the annual number of deaths from diphtheria in any one area varies considerably. This is very clearly shown in Dr. Newsholme's recent work.[9] Such a decline, lasting already over three years and unprecedented in magnitude, has indeed been recently shown by figures published by the Imperial Health Office and the Municipal Statistics Office in Berlin to have occurred in Paris and Berlin and in 266 German towns of over 15,000 inhabitants each. These figures are cited by Dr. Kossel in the *Deutsche Medicinische Wochenschrift* of April 14th, 1898, p. 229. I thought it would be interesting to compare these figures with those relating to London and so I have constructed diagrams which represent the annual number of deaths from diphtheria in these places. And I have added to the diagrams for London and Berlin curves showing the number of deaths in per 10,000 notifications and the number of deaths in the hospitals per 10,000 admissions. The figures upon which the diagrams for Berlin and the other German towns are based are taken from Dr. Kossel's paper. To the Registrar-General and the medical officer of health for the County of London I am indebted for the numbers of deaths and notifications in London, and to M. Bertillon, chief of the Statistical Department in Paris, I am indebted for the number of deaths in that city. I should like to take this opportunity to express my gratitude to these gentlemen for the great kindness which they have shown in supplying me with the information which I required.

These charts show that in Paris, Berlin, and the 266 German towns there has been a remarkable fall in the annual total number of deaths from diphtheria—a fall which commenced abruptly with the introduction of the serum treatment, has steadily continued since, and has had no parallel in the previous eight years. In London, on the other hand, they show that though there has been on the whole an improvement since 1893, yet the number of deaths in each of the last three years has been greater than that of any of the seven years that immediately preceded 1893. Moreover, the case mortality in Berlin has fallen to a considerably lower point than it has in London. Indeed, the chart for London shows a marked and deplorable contrast to those of the other towns.

How are these facts to be accounted for? The following suggestions present themselves for examination:—(1) There was more room for improvement on the continent than in London; (2) the prevailing type of diphtheria has been very severe in London during the past three years; (3) the serum used in this country is inferior to that used abroad; and (4) the remedy is more extensively used there than here.

TABLE III.—*Diphtheria Notifications, Admissions, and Deaths in London, 1886–1897.*

Year.	All London.		Metropolitan Asylums Board Hospitals.		Ratio of hospital admissions to notifications.
	Notifications.	Deaths.	Admissions.	Deaths.	
1886	—	1,381	—	—	—
1887	—	1,579	—	—	—
1888	—	1,812	99	46	—
1889	—	2,075	722	275	—
1890	6,420	1,877	942	316	1 : 6·8
1891	6,412	1,174	1,312	397	1 : 4·9
1892	8,345	2,182	2,009	583	1 : 4·1
1893	13,694	3,484	2,848	866	1 : 4·8
1894	11,180	2,861	3,666	1,035	1 : 3·05
1895	11,222	2,479	3,685	820	1 : 3·1
1896	13,808	2,793	4,508	948	1 : 3·06
1897	13,192	2,328	5,673	987	1 : 2·3

[9] Origin and Spread of Pandemic Diphtheria, London, 1898.

TABLE IV.—*Diphtheria Notifications, Admissions, and Deaths in Berlin, 1886–1897.*

Year.	All Berlin.		All Berlin hospitals.		Ratio of hospital admissions to notifications.
	Notifications.	Deaths.	Admissions.	Deaths.	
1886	6,963	1,682	1,738	609	1 : 4·00
1887	5,438	1,392	1,636	598	1 : 3·35
1888	4,190	1,195	1,446	523	1 : 2·87
1889	4,220	1,210	1,623	573	1 : 2·6
1890	4,586	1,601	1,792	695	1 : 2·55
1891	3,504	1,106	1,764	623	1 : 2·00
1892	3,683	1,342	2,074	837	1 : 1·77
1893	4,315	1,637	2,450	951	1 : 1·76
1894	5,220	1,416	2,890	801	1 : 1·80
1895	6,106	987	3,061	484	1 : 2·00
1896	4,345	559	2,138	285	1 : 2·00
1897	3,723	546	1,947	263	1 : 1·9

1. It is true that in the years which immediately preceded the antitoxin treatment the ratio of deaths from diphtheria to inhabitants[10] was considerably higher in Berlin than in London; it is therefore certain that there was more room for improvement there than here. But, on the other hand, the Berlin rate has now fallen to a considerably lower level than our own. The same may be said of the case-fatality rates. Our present condition is therefore unsatisfactory.

2. Reference to Table III. will show that the notifications of diphtheria in the metropolitan area have more than doubled since 1890. A considerable rise occurred in 1892; in 1893 the figures rose to the alarming total of 13,694. A slight decline took place in 1894 and 1895, but again in 1896 and 1897 the figure has been over 13,000. In Berlin, on the other hand, the number of notifications has been more constant (Table IV.). But while the great prevalence of the disease in London in recent years may explain why the annual numbers of deaths from diphtheria there have not diminished as in Berlin it does not account for the difference in the fatality rate of the affected in the two cities.

3. In 1896 THE LANCET Special Commission on the Relative Strengths of Diphtheria Antitoxic Serums[11] reported unfavourably of the serums prepared in this country: have they improved since that time? I have personal knowledge that some at least of the antitoxin used as recently as the first half of last year, and coming from more than one London laboratory, had very much less antitoxic power than that claimed for it.[12] But the methods of preparing the serum and of estimating its strength have improved since then, and we have it on the authority of Dr. Sims Woodhead[13] that the average strength of the serum now issued from the laboratories of the two Royal Colleges is 375 units per c.cm. If, then, our comparative ill-success has been due in part to the weakness of our antitoxin we may look with some confidence for better results in the near future.

4. But if our antitoxins have been weak, is this the sole reason for our comparative ill-success? Or is it partly due to the remedy being more freely used in Berlin than in London? We may, I think, assume that in our hospitals the antitoxin is used about as freely as it is in those of Berlin. And it is shown by the charts that the fatality rate of all cases goes closely hand in hand with that of the hospital cases only both in Berlin and London. It is therefore at first sight tempting to conclude that the remedy is used to an equal extent by the private practitioners of the two cities as it is by the hospital physicians.

On further consideration, however, I think this reasoning is unsound. For in Berlin, where the fatality rate of diphtheria prior to 1893 was very high, and where the hospital rate was in that year no higher than that of the whole city, the introduction of the new treatment was followed by a

[10] See Dr. Newsholme: loc. cit., pp. 30 and 75.

[11] Report of THE LANCET Special Commission on the Relative Strengths of Diphtheria Antitoxic Serums. THE LANCET, July 18th, 1896.

[12] The majority of the estimations were made by Ehrlich's old method, but several were repeated, using the new method and a standard toxin sent by Professor Ehrlich himself. These showed that the original estimations were substantially correct.

[13] Report of the Council of the Royal College of Surgeons of England, October, 1898.

remarkable fall both in the general and in the hospital rate. In London, on the other hand, where, prior to 1894,[14] the fatality rate of diphtheria was steadily improving and where the rate for the whole city was considerably lower than that for the hospitals alone, the introduction of the new treatment was followed by a fall in the hospital rate, which then came to coincide with that for the whole city; but the latter was scarcely affected and continued to follow the direction of its previous course. It would even appear that the improvement in the case mortality of diphtheria in London has been due to other causes than the new treatment. On the other hand, the enormous fall in the case mortality of Berlin which took place in 1894 and 1895 cannot, I think, be attributed to anything else. And unless our serum has been entirely worthless, which is certainly far from the truth, one can only conclude that it has not been used in London to anything like the extent it has in Berlin.

Can anything more be done to improve the deplorable fatality of diphtheria in London? I think that without doubt much might be done to diminish the prevalence of the disease by the isolation of convalescent patients until bacterial examination of the throat showed the absence of the Klebs-Löffler bacillus. Not many months ago I was asked by the house physician in one of our provincial hospitals to examine a child and report as to his fitness to return home. A day or two later I reported that virulent diphtheria bacilli were still present in the throat, whereupon the house physician replied that the child had already gone home, as he could not wait for the result of my examination. I fear that this is no isolated instance. No doubt if the patients were not sent home until the bacillus diphtheriæ could no longer be found in their throats, in some instances children would have to be isolated for several months. But even so that would be cheaper—to put it on the meanest grounds—than allowing them to go home and spread the seeds of the disease.

The fatality rate of diphtheria within the hospitals both in London and Berlin used to be considerably greater than of cases treated in their own homes, and this is not surprising, seeing that it is only the severer cases and often the moribund which are brought to the hospitals. But on the introduction of the antitoxin treatment the hospital fatality rate fell as low as the general rate in Berlin, even a little lower. This, I think, indicates that both there and here the new remedy has been more readily adopted by the hospital physicians than by general practitioners, and affords grounds for the hope that when the latter become fully alive to its advantages the fatality rate of private cases may fall and become as much better than that of the hospital cases as it was in former years. By many medical men I fear the antitoxin is looked upon as being in an experimental stage. They do not recognise that they possess a remedy which is capable of robbing diphtheria of its terrors, the evidence as to the utility of which is such that those incur a grave responsibility who do not use it. Called into a case they too often trust that it will be a mild attack and hesitate to apply the means of cure until it is too late. The parents of the little patients are in the majority of cases ill-informed, and either do not know of the remedy or look upon it as a dangerous substance obtained from a diseased animal and consequently they do not call for assistance until they are seriously alarmed. It is scarcely too much to say that if these ignorant people could be induced to bring their children for treatment as soon as the first symptoms of disease appear, and if the medical men would make thorough use of the remedy, the greater part of the mortality of diphtheria would disappear.

Cambridge.

[14] The influence of the new treatment is shown in the Berlin returns for 1894. But in London it can scarcely be said to have commenced before 1895.

ISOLATION HOSPITALS IN GLAMORGANSHIRE.—At a meeting of the Isolation Hospital and County Laboratory Sub-committee of the Glamorganshire County Council held at Cardiff on Nov. 22nd plans were approved for isolation hospitals at Pontardawe and in the Rhondda Valley. Mr. T. H. Morris, M.B., C.M. Glasg., Alderman R. W. Jones, M.B., C.M. Glasg., J.P., and Mr. H. N. Davies, L.R.C.P. Lond., M.R.C.S. Eng., were appointed commissioners to inquire into the proposed establishment of an isolation hospital for Penarth. Dr. Morris and Dr. Jones were appointed a sub-committee on the question of fitting up the chemical section of the county laboratory.

THE

INOCULATION THEORY OF MALARIAL INFECTION.

ACCOUNT OF A SUCCESSFUL EXPERIMENT WITH MOSQUITOES.

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IN a former article on Hypotheses as to the Life-History of the Malarial Parasite outside the Human Body[1] I expressed the opinion that an investigation of the mechanism by which the parasites penetrate into the blood of man ought to be the first step which would lead with certainty to a knowledge of the extra-corporeal phase of these hæmatozoa. I therefore reviewed afresh the old controversy as to how the fever is contracted, examining the various hypotheses most generally held, to show which of them is most in harmony with the best ascertained facts regarding the epidemiology and pathology of malaria. The theories most discussed were, and still are, those which regard as the vehicles of infection air and water respectively. With respect to the water-conduction hypothesis, I reviewed the theories and facts which Laveran, its principal supporter, adduced in its favour and showed how it can no longer be sustained after the experimental investigations of Celli and various other observers and especially in view of our experience of many malarious places in the Roman Campagna, where water of the same excellent quality is drunk as in perfectly healthy places in their immediate neighbourhood. I may add that the greater number of recent observers who have studied malaria in the most diverse parts of the world attach no value in their own experience to water as a vehicle of infection.

It was a more difficult matter to dispose of the air-conduction theory. Of all infectious diseases there is none whose origin from, or at least close connexion with, the soil is more generally admitted by epidemiologists than that of malaria. Now, in regard to the hypothesis that the malarial parasite exists in a free state and resists desiccation so as to be breathed with the atmospheric dust, I pointed out that *malaria does not comport itself in the least degree like a disease due to the inhalation of dust.* And apart from this I showed that the theory of the passage of germs from the moist earth to the "ground air" ("grundluft") has various difficulties to encounter which are not easily surmounted. Other difficulties which I noted which the supporters of the air-conduction theory had to contend against lie in explaining why malaria is not transported by the wind or, at least if it be so transported, why the fact is of no practical importance in the diffusion of the disease; and why the malarious load carried by the atmosphere should vary notably at different hours of the day, &c. And I contended that those who accepted the view that malarial germs pass from the soil into the air could offer only artificial and inadequate explanations of these and other facts. From this I passed to an exposition of the hypothesis of inoculation, asking myself whether this theory agreed with known facts regarding the diffusion of the fever and the conditions which favour the contracting of it. I pointed out that, granted the truth of this hypothesis, the explanation of many of the facts which are difficult to understand in the air-conduction theory becomes at once easy and satisfactory. Thus, if it be true that malaria is inoculated on man by the agency of mosquitoes it is not difficult to understand why, for example, it is not transported by the wind; why the hours of evening and of night are most dangerous for contracting it; why the infection does not extend in the vertical direction excepting to slight altitudes; and why it should be dangerous to sleep in a malarious locality. I cited finally some observations which proved the utility of mosquito curtains in malarious localities. Taking into consideration these and other facts, which are here omitted for the sake of brevity, I arrived at the conclusion that "malaria behaves itself with regard to man as if the malarial germs were inoculated by mosquitoes."[2] I omit, likewise for brevity's sake, to refer in detail to what I supposed to be the relations existing between malarial parasites

[1] THE LANCET, Nov. 14th and 21st, 1896.

[2] THE LANCET, Nov. 21st, 1896.

and mosquitoes. But I wish to recall the fact that I laid great stress upon, and attached great value to, one argument in favour of the inoculation theory—viz., its analogy to the cattle fever of Texas, in regard to which the beautiful experiments of Smith and Kilborne were already known.

That mosquitoes might in some way be connected with the life-history of the malarial parasite had already been surmised by various authors. But with the exception of a few of the most recent these writers all looked upon the mosquito as acting the same part in malaria as it does in filaria disease and not as an inoculating agent. Thus Laveran, in his celebrated "Traité des Fièvres Palustres,"[3] at page 457, after having stated that he had repeatedly examined the water of malarious places and had several times found motile filaments very closely analogous to the microbes present in the blood of malarial patients, but that he had never in this search encountered pigmented elements analogous to the cystic bodies No. 1 and No. 2, goes on to say: "It is easily understood that the microbes of malaria may be encountered in the blood in forms which may differ considerably from those which they present in the outer world. The natural history of parasites offers us numerous examples of such transformations. I shall restrict myself to recalling the curious facts which have been discovered during the last few years in regard to filariasis. The filaria embryos which are found in the blood of those affected by this disease make their way into mosquitoes with the blood which these insects suck up from individuals suffering from filariasis. In the body of the mosquito they undergo a transformation, and when the latter eventually dies on the surface of some stream the filaria make their escape into the water and are subsequently swallowed in drinking-water by man. Has the mosquito a similar *rôle* in the pathogenesis of malaria to that which it has in that of filariasis? The thing is not impossible, and it is a noticeable fact that mosquitoes abound in all malarious places." These are the actual words of Laveran,[4] who then goes on without absolutely excluding the air-conduction theory to bring together and discuss facts which in his opinion support the hypothesis that malaria is contracted through drinking the water of malarious places.

In all this there is not the slightest hint at the theory of inoculation, nothing but a speculation as to the possibility that the mosquito has the same relation to malarial parasites as it has to the filaria nocturna; in other words, we have here something of the same kind as the theory of Manson, but nothing whatever of the theory which I have expounded above. Laveran expresses himself in the same way in the edition of his book of 1891. In an article published in 1896[5] he relinquishes the water-borne theory, since he observes that whilst many facts go to prove that infection may be brought about by drinking-water, yet none of these facts are absolutely demonstrative, and he states that the mosquito theory tends to gain ground as being that which better accords with what we know of the circumstances in which malarial infection may be contracted. In the last edition of his book (1898) Laveran alludes to the hypothesis of inoculation.[6]

The article of Manson[7] is very well known, in which he revives in the main the hypothesis of Laveran, contending that mosquitoes comport themselves with respect to malaria in the same manner as they do with regard to filariasis. Manson, in order to give a rational basis to his conception, avails himself of his extensive parasitological knowledge and formulates the hypothesis that the flagella of the so-called malarial flagellates are the forms which, developing in the bodies of mosquitoes, there commence the extra-corporeal life-cycle of the malarial parasite. Thereupon the mosquitoes, dying in the water, sow it, so to speak, with malarial germs, and the water in this way becomes the carrier of the malarial infection to man. Also in a recent work[8] he upholds the idea that man becomes infected by drinking water contaminated by mosquitoes or through the medium of inhalation.

I will not revert here to the criticisms which I have already made upon this view of Manson, who at any rate has the merit of having prompted and guided the extremely interesting researches of Ross. While these researches were still going on Dionisi,[9] in our laboratory, observing pigeons infected with the halteridium-Labbé (or *Laveranie*-Grassi), advocated the inoculation theory as the most plausible explanation of the infection, since the birds became infected as a rule after moulting, when they were vulnerable to the bites of mosquitoes. Ross, working in Calcutta, succeeded in determining the phases of the life-cycle of proteosoma from sparrows and other birds infected through bites by a particular species of mosquito (grey mosquito).[10] These hæmatozoa having entered into the stomach of the grey mosquito develop into forms which Ross considers as coccidia (proteosoma-coccidia); in the mature coccidia "germinal rods" are formed which find their way to, and collect in, the veneno-salivary glands of the insect which at this point becomes capable of injecting the proteosoma with its bite into healthy sparrows.

After these most interesting observations of Ross on the biology of the parasites of birds, Manson, who communicated them to the recent Congress at Edinburgh, admits that the malaria of man may also be inoculated by mosquitoes, but without maintaining that this is the only possible mode of infection.[11]

Quite recently the theory of inoculation has found a further supporter in R. Koch[12] who has been studying malaria in the German colony of East Africa and who puts forward the hypothesis that the malarial parasites have the same relation to the mosquito as the parasites of the fever of Texas have to the cattle-tick. He does not, indeed, add any new fact in its favour, but it will be attributable to the great authority of this writer if the theory of the inoculation of malaria by means of mosquitoes has become more widely known and has gained more credence among us during the present year. Of the very interesting observations of Grassi[13] on the same subject I shall have occasion to speak several times further on.

In 1894—i.e., nearly three years before the publication of my paper in THE LANCET—I made some experiments with the object of finding whether my hypothesis of inoculation would withstand the test of facts. In these experiments I had Dr. Dionisi as my co-worker. They did not succeed because for want of means we could not secure for them conditions similar to those in which infection is contracted naturally. And to this explanation adopted by myself another may be added (as Dionisi remarks)—namely, that in all probability among the species used by us those by which the natural infection is carried were not represented (*loc. cit.*). For these reasons I do not believe that the negative result of the experiment ought to discredit the value of the hypothesis.

In resuming the experimental study of this question I had to consider two ways by which it might be approached. In the first place, I might make use of an indirect method of investigation, carrying out experiments in some locality of a highly malarious character on a large number of individuals all living under similar conditions. Of these, one portion would be protected in some way from the bites of mosquitoes, especially at night, while the other portion would be left undefended like the ordinary inhabitants of the place. Such protection might be afforded by thick mosquito nets, by providing the windows of sleeping apartments with frames covered with gauze, and also by means of fumigation, for which purpose the smoke of ordinary wood is known to be efficacious. The effect might likewise be tried of anointing the body with aromatics, as the ancients were in the habit of doing and as some tribes living in tropical climates still do, apparently with the object of defending themselves against the bites of these insects. All possible precautions having been adopted towards securing that end it would then be seen whether the protected persons were preserved by this means from attacks of fever. But this way of solving the question I was obliged to abandon for want of sufficient means and

[3] Paris: Octave Doni.

[4] I cite the words of Laveran because some have said (including recently Grassi) that I had revived the theory of Laveran, which is not the case.

[5] Revue d'Hygiène, December, 1896. Comment prend-on le paludisme?

[6] Traité du Paludisme. (Paris: Masson et Cie, 1898.)

[7] The Life History of the Malarial Germ outside the Human Body. THE LANCET, March 14th, 21st, and 28th, 1896.

[8] Tropical Diseases. (London: Cassell and Company, 1898.)

[9] Dr. A. Dionisi: Sulla Biologia dei Parassiti Malarici nell' Ambiente (Policlinico, 1898.)

[10] Ross: Report on the Cultivation of Proteosoma-Labbé in Grey Mosquitoes. (Calcutta, 1898.)

[11] P. Manson: The Mosquito and the Malarial Parasite. (Annual meeting of the British Medical Association, July, 1898.)

[12] Die Malaria in Deutsch-Ostafrika. Arbeiten der kaiserlichen Gesundheitsamte, Band xiv., Heft ii., 1898.

[13] Rapporti tra la Malaria e peculiari Insetti (Rendiconti della Reale Accademia dei Lincei, vol. vii., Serie 5a, Fasc. 7, and Policlinico, 1898).

on account of the great difficulty of maintaining rigorously the conditions of the experiment. It would, in fact, have been necessary to have had a certain number of men entirely at one's disposal, to have exercised a rigorous and continuous surveillance over them, and to have obtained the consent of a portion of them to submit to the measures indicated above. Now, anyone acquainted with the population, so largely nomadic, of the Roman Campagna can easily imagine how difficult it would be to attain the desired end under such conditions. I therefore applied, with the support of Professor Celli, to the military authorities, proposing that the experiment should be carried out in the forts surrounding Rome, many of which are situated in localities highly malarious. It is well known that many of the soldiers who man these forts fall ill from fever from the month of July onwards. Now, I proposed that one part of the troops should remain shut up from sunset till morning in dormitories protected against the entrance of insects—an easy matter, one would suppose, to arrange—whilst the other part should be left under the habitual conditions. If, then, let us say, some of the men who had been left to follow their ordinary habits took fever while none of those who had been protected from mosquito bites were affected (the other conditions of life being identical for both) we should have obtained an indirect demonstration of the way in which the fever is contracted. But unfortunately, for reasons connected with the military service, it was not possible to carry out such an experiment.

In the second place it was open to me to try afresh the direct method of investigation, modifying in various ways the conditions of the experiment. I have already recorded the negative result which attended the first experiments instituted by me in 1894 at the Hospitals of Santo Spirito and San Giovanni. These were made with a large number of mosquitoes captured on the estate of Porto, near Fiumicino (a highly malarious locality), and set at liberty in rooms specially prepared for the purpose. The non-success of this experiment was due, I consider, to the fact that the conditions under which it was carried out were too dissimilar in the subjects experimented upon to those under which the fever is contracted naturally. It is well known, indeed, that mosquitoes have but a brief existence; hence it is necessary, in order to keep the individual in what I may be allowed to call an *artificially malarious* environment, that the supply of these diptera should be renewed very frequently. Again, it is an ascertained fact that only exceptionally do persons exposed for only a short time to the infection contract the fever even in the most highly malarious localities and that in general a sojourn of at least a week or two weeks in such a locality is necessary. Not having at the time any person at my disposal suitable for such a purpose, and not possessing the means of procuring one, I could continue the experiments for only a very short time. As the mosquitoes collected in my first experiments were naturally representative of the species most prevalent in the malarious locality from which they were taken, I shall be correct in saying that these experiments were carried out in precisely the same way as the latest ones to which I am now about to refer, and the result of which has been to decide this question. The sole difference between the first unsuccessful experiments and these last consists in this—that the first for want of sufficient means were too soon interrupted.

It was clear, then, that in making a fresh attempt this year to solve the problem, I must assimilate the conditions of my experiment as nearly as possible to those natural ones under which the fever is usually contracted. It was further necessary, in order that the result should be positively demonstrative, to surround the experiment with the greatest precautions and with this in view to carry it out in an environment known for certain to be non-malarious, where no one had ever contracted the fever; to employ for the purpose an individual who had never had malaria and who had been in the hospital for as long a time as possible under medical supervision; and to continue the experiment for several weeks and during this period to renew rather frequently the supply of mosquitoes. It will be easily understood that it was no easy matter to satisfy with certainty the first of these conditions; it was more especially difficult to find anyone in the circumstances indicated willing to allow himself to be subjected to the test. And, given all this, it must not be forgotten that the persons experimented upon are placed in conditions much less favourable to the contracting of disease than are the inhabitants of the Campagna. Everyone knows how important are good food, a regular, tranquil life, and the avoidance of over-exertion in warding off the fever even in highly malarious places, and how much less frequently persons living under such conditions are attacked than those labourers who are badly fed and overworked and exposed to a broiling sun and to inclement weather—in short, to all those causes which favour the development of infection. Thus, even supposing that the subjects of my experiments had been inoculated with malaria, it is conceivable that in the conditions under which they were placed they might be able to resist the development of the infection in virtue of good nourishment, rest, and the absence in general of circumstances unfavourable to health. If it is further taken into account that there are individuals who enjoy a natural immunity from malarial infection it will be conceded that a negative result could not be looked upon as conclusive evidence against the theory, whereas a positive result obtained under the conditions indicated would have the force of a complete demonstration.

My last experiments were commenced in the beginning of August of this year. They were carried out upon three individuals, with various modifications which will be described later. A small room of two beds was selected on the second floor of the Hospital of San Carlo (near Santo Spirito), in connexion with the section under my charge. Its two windows having been closed with frames covered with gauze, adult mosquitoes brought from a malarious locality were set at liberty or receptacles containing larvæ of mosquitos collected in the Campagna were placed in it. The persons selected all submitted themselves voluntarily to the experiment after I had clearly explained to them what I wanted to try. They were shut up in the "mosquito chamber" in the evening a little before dusk and were kept there all night. In the morning they came out and passed the day in the ordinary wards.

(To be continued.)

FUNCTIONAL DYSPHAGIA.[1]

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PHYSIOLOGY OF DEGLUTITION.

DEGLUTITION is the muscular movement by which liquids and masticated boluses of food are transmitted from the mouth to the stomach. It might be well, as a preliminary, to briefly recall the physiology of the process. Although the passage from the mouth to the stomach is one continuous and uninterrupted movement, still, for convenience of description, it has been divided into three acts. In the first act the masticated food is gathered up into a bolus in the mouth, and then (chiefly through the action of the tongue) pressed backwards past the anterior arch of the fauces. In the second act it is grasped by the constrictors of the pharynx and passed downwards over the entrance to the glottis until it reaches the œsophagus, when the third act begins, to terminate on the entry of the food into the stomach. This third act is very rapidly performed, as may be observed in animals with thin necks, such as the swan, in whom a rapid ripple in the situation of the gullet indicates the rate of transit. The first act is voluntary, although usually performed unconsciously. It is carried out by the muscles of the tongue and palate, chiefly the former. In the second act the muscles of the anterior faucial pillars contract on the morsel, and then behind it, so as to shut off the return to the mouth; the soft palate and posterior faucial pillars bar the route to the posterior nares; the entrance to the glottis is protected by the contraction of its own muscles, and by the tongue being retracted while the larynx is lifted with the pharynx and carried forward beneath its base. At the same time the pharynx is raised to receive the food when it, in its turn, contracts, and so the bolus is passed downwards till it enters the œsophagus. The point of separation between the pharynx and œsophagus is purely an arbitrary one. The upper third of the latter tube is composed entirely of striped voluntary muscle fibres, and the

[1] A paper read before the Harveian Society of London on Nov. 17th, 1898.

level of the cricoid cartilage is simply chosen as a convenient situation to draw a boundary line between them. Arrived at this point the tonic contraction of the circular muscles is relaxed, and the food leaves the pharynx to enter the peristaltic grip of the œsophagus, which, as already observed, rapidly passes it on to the stomach. In this process "if we suppose the bolus to be at one particular place in the tube," as Halliburton well remarks, "it acts stimulatingly on the circular muscular fibres behind it and inhibitingly on those in front; the contraction therefore squeezes it into the dilated portion of the tube in front, where the same process in repeated and this travels along the whole length of the tube.[2]

INNERVATION OF DEGLUTITION.

The first of the three acts of swallowing is entirely a voluntary one. The second and third acts are involuntary. This refers, of course, to a physiological condition; we shall have occasion to see that volition has a certain amount of control during the second part. The nerve centre, coördinating the action of the muscles employed in the second and third acts, is situated in the medulla oblongata. In the reflex portion of the act the following nerves are concerned: *sensory* or afferent, branches of the fifth supplying the soft palate; glosso-pharyngeal, supplying the tongue and pharynx; and the superior laryngeal, supplying the epiglottis and larynx. The *motor* fibres concerned are: branches of the fifth, supplying part of the digastric and mylo-hyoid muscles, and the muscles of mastication; the glosso-pharyngeal, supplying the muscles of the pharynx; the vagus, supplying the soft palate, and the muscles of the larynx through the inferior laryngeal branch; and the hypoglossal, the muscles of the tongue. With regard to the œsophagus the nerve structures concerned are the ganglia contained in its walls and the pneumogastrics. These nerves supply the gullet with motor branches and act as inhibitory on the tonic sphincter at the cardiac extremity. When they are divided therefore the cardiac end remains firmly contracted, while the œsophagus becomes paralysed, and if food is swallowed it accumulates in the gullet and does not arrive at the stomach. As in the peristalsis of the intestines, the motor property of the muscle of the œsophagus is an inherent property in it, although controlled by nervous agency. Hence if the gullet is cut across leaving the nerve branches intact a wave of contraction will travel from one end to the other across the solution of continuity.

With regard to the swallowing of liquids it has been shown by Kronecker that the act of deglutition is differently produced and that its division into three stages is true for solids only. A mouthful of liquid is, in fact, projected from the mouth into the gullet by a sort of force-pump action of the two mylo-hyoid and hyo-glossi muscles. These muscles combine to pull the base of the tongue first upwards and backwards and then backwards and downwards. In this way the pharyngeal muscles hardly contract on the liquid at all. These preliminary considerations as to the mechanism of deglutition will find their application in many points which will present themselves in the course of this paper. True paralysis of the œsophagus is very rare. It is most often due to central disease—cerebral tumour, bulbar paralysis, or general paralysis of the insane. It is sometimes peripheral and due to diphtheria.

FUNCTIONAL DYSPHAGIA.

Functional dysphagia may be manifested under two forms—a paralytic and a spasmodic. There is either a difficulty in passing the bolus of food (which for brevity we may refer to henceforth as "the morsel") from the mouth into the pharynx or else the morsel cannot be passed from the pharynx into the gullet and is, as a rule, rejected. Once the food passes the level of the cricoid cartilage there is generally no functional affection which arrests its passage downwards to the stomach. One might imagine a condition of "œsophageal constipation" from muscular atony, but I do not know if it has ever been demonstrated. A form of spasmodic stricture of the gastric extremity of the œsophagus has been described by Dr. J. C. Russel of Southport.[3] This appears to occur at all ages and in both sexes; it is not markedly associated with what we understand as hysteria and neurasthenia, and the two chief symptoms are dysphagia and vomiting, and the bougie will sometimes, but not always, detect a spasmodic stricture of the cardiac end of the gullet. The condition is often ascribed to some affection of the stomach, and Dr. Russel considers that dilation of the stricture with bougies is not sufficient—it should be stretched by an expanding dilator.

Functional dysphagia is not necessarily associated with the affection known as "anorexia nervosa," so well described by Sir William Gull. There is sometimes a loss of appetite for solid foods, but as a rule no distaste for it. In the first form of functional dysphagia the patient is able to masticate food thoroughly but appears unable to gather it into a bolus and pass it through the anterior pillars of the fauces. This, strictly speaking, can hardly be termed difficulty of swallowing; frequently no attempt at all is made to swallow; there is often no complaint of pain; the patient simply states her inability to get the food out of her mouth. It might more correctly be termed "aphagia." Before they come under observation these patients—the majority of whom are females—have given up every idea of even making the effort to swallow solids and have nourished themselves entirely on liquids. If they can be induced to attempt the deglutition of some solid food it will be observed that the first step of the first act is made with an effort which, in the absence of local symptoms, is too palpably overdone. The lips are too firmly compressed, the jaws too steadfastly clenched, the chin is pushed forwards and the head appears to sink to meet the rising pharynx. Still the morsel may exit from the mouth, but it will be noticed that the second stage of deglutition does not follow quickly, the raised pharynx does not sink down again as it should do when the food passes from its grasp, and the patient retains her head in a fixed position, while her face shows an anxious and expectant expression. Generally within a few seconds and with a gulping action the bolus is returned into the mouth or shot out straight through it, while the patient looks relieved, or martyrised, or complacent—or all three! This gulping action is not unlike that which one sees in a dog when, being pursued or from other causes which demand despatch in eating, it tries to bolt a half-masticated piece of food. Finding that it will not pass the cricoid cartilage the animal gulps it back into the mouth for further trituration. In the condition I have been describing, however, the dysphagia is not due to any undue bulk in the bolus; it is caused by the second of the two forms of functional dysphagia—in other words, by spasm of the upper constrictor of the œsophagus. This latter is frequently referred to by the title of "œsophagismus," but I think it might be a good plan to bear in mind that although one form of functional dysphagia is associated with œsophagismus, still this latter term is also applicable to the spasm of the gullet which may occur in the course of certain nervous disorders, such as chorea, epilepsy, hydrophobia, and tetanus. Œsophagismus may result from long-continued or violent retching, and it may be associated with an early stage of malignant disease of the œsophagus. It might therefore be advisable to avoid the use of the term when we mean functional spasm and to limit "œsophagismus" to the above nervous conditions and to that met with in pseudo-hydrophobia, in reflex spasm from causes situated in the gullet itself (foreign bodies, &c.), or at some distance (the base of the tongue, the pharynx, teeth, nose, ear, stomach, &c.), or due to general affections, such as gout.

ETIOLOGY.

Functional dysphagia is therefore an affection which may be paralytic, or spasmodic, or both. The starting point is not infrequently some form of sore-throat, the temporary lodgment of a foreign body in the pharynx, or some other occurrence which attracts the patient's attention to her power of swallowing. Or it may date from some mental or physical strain, prolonged lactation, recovery from acute illness, &c. As already mentioned, the large proportion of sufferers are females and it is said to occur in those of a neurotic type between the ages of nineteen and thirty. But I have come across it in females of almost any age—a most typical case occurred in a young man aged eighteen years—and cases have been met with in children. Undoubtedly it is met with most frequently in those of an hysterical temperament, but it is very difficult to detect a history or stigmata of hysteria in those who apply for this condition, for this trouble is rare in old-standing hysteric cases (Weir-Mitchell) and when it occurs it is frequently amongst the first hysterical symptoms complained of. There are certain symptoms of hysteria which appear early in that disease, just as there are others which do not show themselves as a rule till the later

[2] Kirkes' Handbook of Physiology, fourteenth edition, 1896.
[3] Brit. Med. Jour., June 4th, 1898.

stages. As Weir-Mitchell puts it, "Dysphagia one sees often in cases which are afoot."[4]

DIAGNOSIS.

The patient may therefore present herself before her hysterical character has been revealed, and her condition enlists so much sympathy and the diagnosis is sometimes so difficult that its differentiation from much more serious affections is not always readily arrived at. It is a very different affair, for example, from functional aphonia, where not uncommonly there is a history of previous attacks of sudden loss of voice with sudden recoveries, and a glance with a laryngeal mirror settles the diagnosis. In functional dysphagia our suspicions may be aroused if the patient states that she "cannot get the food out of her mouth," or if she states that "it goes down but comes up again before it is half swallowed," or that "when she goes to swallow she feels a ball rising in the throat to meet it." The patient may also present herself without any loss of weight, being able to nourish herself on liquid food. In other conditions of dysphagia the amount of liquid nourishment taken is not always compensatory. In malignant disease, for example, the sufferer may be able to swallow a much larger amount of liquid nourishment than another patient with functional dysphagia, but the latter may remain plump while the former wastes steadily. Still, many cases of functional dysphagia do become remarkably thin, but then the observer is at once struck by the fact that, as a rule, they are, as Weir-Mitchell says, not only "afoot," but though frequently pale they are not cachectic, they have no secondary affections and are able to get through a considerable amount of work. A patient with a similar amount of wasting from malignant disease would not only have the undoubted look of cachexia, but probably be too weak to leave his room. The history may be of assistance, as revealing a longer duration and arrested wasting when the dysphagia is functional, whereas in malignant disease the loss of weight is only too steady and rapid. Very few cases of malignant disease of the œsophagus last more than a year; in well-marked instances a short three months will often bring the relief of death to the sufferer. Carcinoma is rare before the age of forty years, though it sometimes occurs in early life. It is much more frequent in men than in women, in whom the proportion is between 14 and 29 per cent. of all cases; but the diagnosis is made difficult from the fact that when malignant disease does occur in early life it is chiefly met with in females.

Functional dysphagia may be associated with organic disease just as we meet with functional aphonia with pathological changes in the larynx, and of course the diagnosis is then rendered more difficult. But in an uncomplicated case there are a large variety of affections which might occur to the mind and which must be excluded before a positive diagnosis is arrived at. Many of these possibilities can promptly be considered and ruled out of court if a thorough inspection is made of the pharynx and larynx. Sir Felix Semon has pleaded for the imperative necessity of a thorough larnygoscopic examination in all cases of persistent hoarseness in patients over forty years of age so as to be prepared for the possibility of an early diagnosis of laryngeal cancer. He has also pointed out the necessity of careful inspection of the throat as a first step in dealing with a foreign body impacted in the upper air or food passages. The same pleas apply to the condition under consideration, and it is to be hoped that the time is fast approaching when neither a diagnosis nor an attempt at treatment will be meditated before a thorough direct observation has been made. Perhaps this applies particularly to children, who frequently give us little help in localising their symptoms. The rare condition of congenital atresia should be borne in mind when dealing with infants. Thrush may in infants spread from the mouth to the gullet and so give rise to dysphagia. Retro-pharyngeal and peri-œsophageal abscesses have to be borne in mind. It is not uncommon for children while holding some toy in their mouths to swallow it and never mention that it has disappeared from their buccal cavity—inwards and not outwards. In any suspected case of foreign body in a cavity the Roentgen rays have proved of the greatest value, not only in diagnosis, but in assisting treatment by localising the point of impaction.

Turning to adult patients, diphtheria may in them, as well as in children, lead to a paralysis of the soft palate and so to dysphagia by reflux of liquids through the nose. Diphtheria may also attack the gullet and the presence of membrane lead to dysphagia. Cases might not infrequently be put down as functional were a careful examination neglected. I have seen such a diagnosis made when the actual cause was a commencing epithelioma at the base of the tongue deep between its margin and the infra-tonsillar region and only visible with a laryngeal mirror. The characteristics of quinsy and other tonsillar affections are so obvious that they hardly present themselves for diagnosis. But a careful inspection of the base of the tongue and of the larynx is most important, the latter particularly if there is any alteration in voice. Acute inflammation of the lingual tonsil is sure to attract attention to the region by the severity of the symptoms; but other less-marked conditions might escape detection if not particularly looked for. Hypertrophies and enlarged veins at the base of the tongue have been credited with being the original points of irritation of functional dysphagia and a cure has been attributed to their direct treatment, generally with the galvano-cautery. The connexion between the two is not satisfactorily established and the same result might have been obtained by any other manipulation which would impress the patient. Malignant disease of the larynx is another possible point of diagnosis which may be ruled out of court by the use of the laryngeal mirror; and still more likely is laryngeal tuberculosis from its frequent occurrence between the ages of twenty-five and thirty-five years. It is not at all uncommon for foreign bodies to get lodged in the naso-pharynx and for the patient to complain only of dysphagia and refer all his symptoms to the front of his neck. I once had to treat an old gentleman, aged seventy years, who came complaining of difficulty of swallowing, slight alteration of voice, and pains shooting up to both ears. Nothing was to be seen in his pharynx and larynx, and such symptoms at his age naturally aroused the suspicion of a malignant affection of the œsophagus. The routine of examination directed me to inspect his post-nasal space, and in the site of election was a distinct syphilitic gumma the heritage of an infection of fifty years previously. Suitable treatment brought relief in a few days and within a month he was free from all symptoms.

Inspection of the larynx is of importance, not only as it may reveal the actual cause of the dysphagia, but also because it may point to pathological changes more remote. I refer to the paralysis of one of the vocal cords—or more rarely of both—from pressure of an aneurysm on the recurrent laryngeal nerve, or from involvement of the nerve in a cancer of the œsophagus. This condition is sometimes suggested by the peculiar voice of "phonative waste" which is heard when one cord is affected. This is apt to disappear when the unimpaired cord takes on increased action and crosses the glottic space to meet with the fixed cord. Those who are not expert with the laryngoscope can often, however, make a very thorough exploration of this region with the forefinger, which can be readily swept over the base of the tongue down round the rima glottidis, behind the arytenoids to the entrance to the gullet and even be carried over the ventricular bands and vocal cords. The whole post-nasal space and the posterior choanæ can be examined in the same way. Next to careful inspection of the upper air and food passages the diagnosis may be facilitated by examination of the neck. It seems almost too elementary to refer to such a matter, but the fact remains that a complete exploration of the interior of these cavities will often be made, and an observer will sometimes neglect to see if there is an enlarged thyroid pressing on the gullet. Much of the dysphagia of acute illness, fever, &c., is due to mere dryness of the mucous membranes. In some instances it is consequent on the mouth-breathing which results from the nasal catarrh and obstruction connected with many specific fevers.

Coming now to affections which are beyond the ken of the frontal mirror we have to refer to some affections of the œsophagus. In chronic œsophagitis, according to Mackenzie,[5] the dysphagia "is constant, whilst in spasm it varies to some extent from day to day, and even from meal to meal. The most important point of distinction, however, between these two affections is that whilst in spasm solids or semi-solids can often be swallowed with comparative ease in simple chronic inflammation liquids pass down much more readily." This distinction does not appear to be very well marked. The diagnosis may be based

[4] Diseases of the Nervous System, Philadelphia, 1881, p. 203.

[5] Diseases of the Throat and Nose, vol. ii., 1824.

on the general features of the case and on the fact that in functional dysphagia the difficulty is met with in the first and second acts, while in chronic œsophagitis it is the third act which is painful, and it is more a case of odynphagia than of dysphagia.

The rare conditions known as acute catarrhal œsophagitis and phlegmonous inflammation of the œsophagus may cause dysphagia, but they can readily be distinguished by the acuteness of the symptoms, the pain on speaking and even on moving, the tenderness on pressure, and other symptoms of local inflammation. Psilosis or sprue may give rise to dysphagia, but then it is only met with in Europeans who have resided in the tropics. Traumatic œsophagitis may arise from swallowing boiling water, solutions of strong alkalies or acids, or from inhaling steam. The immediate dysphagia may be recognised by its acuteness and by the history or by the stains on the lips. The secondary dysphagia resulting from the subsequent cicatricial contraction may not in mild cases set in until some months after the accident, and even after an interval during which swallowing was normally performed. In the absence of information as to the original traumatism suspicion may be aroused by the cicatrices on the lips or in the mouth. It will be noted that I do not suggest looking for any stains or cicatrices in the pharynx, and their absence is explained by reference to the introductory remarks in which it was pointed out that liquids are, so to speak, "shot" through the pharynx without coming into contact with its walls. Tuberculous disease of the œsophagus is too rare an affection to detain us. In syphilis we must depend chiefly on other signs of the disease and the diagnosis can never amount to more than a conjecture. Of simple ulceration, apart from trauma, and of the ulcers consequent on typhoid fever, variola, and pemphigus I have no experience. Some attention has lately been given to the subject of pressure-pouch of the œsophagus, a condition which is apt to be mistaken for the pouching of the œsophagus above the stricture. An excellent description of this condition is given by Mr. Butlin[6] in an article from which it will be seen that it need lead to no confusion with functional stricture. It occurs chiefly in men and is not generally noticed until after forty years of age. There is no real dysphagia, but the one constant symptom is the return of fragments of undigested food, not immediately after being swallowed, but hours and even days afterwards. Pressure on the side of the neck in the posterior triangle, generally on the left side, causes liquids and fragments to return to the mouth. A case illustrating all these conditions was shown by Mr. Cresswell Baber at the last meeting of the Laryngological Society.[7]

Turning finally to the extrinsic causes of œsophageal obstruction which might be confused with functional dysphagia we may have to consider mediastinal new growths, enlarged glands, dislocation backwards of the sternal end of the clavicle, abscess in connexion with Pott's disease, large pericardial effusion (rare), and aneurysm of the aorta. The latter is really the only condition which need detain us, firstly because of its importance, and secondly because of the difficulty it may present in diagnosis. I note that Osler[8] says that dysphagia is a comparatively rare symptom of aneurysm of the thoracic aorta. If this is so it shows the mistaken ideas which might be obtained by limiting oneself to a special department of practice uncontrolled by larger teachings. For the experience gathered from a throat hospital would lead me to the opinion that dysphagia from pressure of an aneurysm is not uncommon. In this view, however, I am supported by the experience of Dr. G. A. Gibson, who states in a recent publication[9] that in aneurysm of the transverse arch of the aorta "interference with swallowing is extremely common," and that when the descending portion of the arch is affected dysphagia is "usually the symptom which calls the attention of the patient to the fact that there is anything wrong." The general symptoms of aneurysm need not here be recapitulated, but brief reference might be made to those cases showing pressure on the œsophagus. To begin with, it should be an inviolable rule to carefully examine every person for aneurysm of the thoracic aorta before forming a diagnosis as to stricture of the œsophagus and before thinking of passing an œsophageal bougie. Sir William Broadbent makes the useful division of aneurysm into aneurysm] of symptoms and aneurysm of physical signs. The latter should, if associated with symptoms of pressure on the œsophagus, at once put the practitioner on his guard against passing a bougie for diagnostic purposes. It is in the "aneurysm of symptoms" that great difficulties present themselves. Space prevents me from enlarging on this point, although it requires the most careful consideration, for many are the tales which are related of physicians who have diagnosed a stricture of the œsophagus, either spasmodic or organic, and have passed a solid india-rubber bougie straight into the sac of an aneurysm. Two methods of examination remain to be considered: auscultation of the œsophagus and the use of the œsophageal bougie.

AUSCULTATION OF THE ŒSOPHAGUS.

Stethoscopic examination of the gullet seems to have fallen into some disuse, and it must be confessed that it is a difficult art to acquire and one which is not always reliable in the impressions it conveys. In normal deglutition there may be no sound at all or at most a confused and continuous bubbling. As a rule it is quickly over. When there is organic stricture the most striking symptom is the prolongation of the œsophageal bruit. The test is generally applied with mouthfuls of liquid and the arrest is revealed by a confused and bubbling noise, which gradually diminishes and can be heard descending as the liquid trickles through. In spasmodic functional stricture there is frequently practically no bruit at all if the liquid passes into the œsophagus. If it is rejected there is a loud and sudden bubbling as it is returned.

DANGERS OF THE ŒSOPHAGEAL BOUGIE.

The passing of an œsophageal bougie is sometimes undertaken light-heartedly, as if it were one of the most trivial of diagnostic procedures. For my own part I must confess that I employ it comparatively rarely—it is always the last step in an examination; if there is any suspicion of the presence of an aneurysm or of ulcerated malignant disease it is not passed at all for diagnostic purposes, and I never pass one except in the presence of a third person. These precautions may appear suggestive of timidity, but although those who have had misfortunes with the bougie are doubtless reluctant to publish their experiences there is, I fear, a record of undoubted accidents sufficient to put every practitioner on his guard and to surround the sounding of an œsophagus with the greatest circumspection. One well-known story records that a hollow bougie was passed easily—presumably into the stomach—and a pint or more of milk was poured through it. At the post-mortem examination a few days afterwards the milk was found in the left pleural cavity. The instrument had perforated the floor of a latent form of carcinoma of the gullet. But it is not only that there is danger of a bougie penetrating an aneurysm or the wall of the œsophagus, the simple passage of the instrument into a gullet where it meets with no pathological change is, in itself, not unattended with risk. Gratz is quoted by Lowman as having reported three cases of death from simply passing a stomach tube. Lowman[10] states that he himself knows of a case where a tube was passed into the stomach and the cavity washed out with warm alkaline solution. The patient complained of feeling weak and he was made to lie down, but he continued looking pale; stimulants were given, but he shortly afterwards died. In seeking for an explanation of these unfortunate accidents I have been reminded of the close association between the act of deglutition and the action of the heart. Kronecker has discovered that the act of swallowing seems to remove entirely the inhibitory action of the vagus upon the heart for the time being so that the pulse becomes exceedingly rapid. Dr. Lauder Brunton, who has called attention to this,[11] finds that sipping half a wineglassful of water will raise his own pulse from 76 to considerably over 100. It is, I fancy, possible that in a sensitive subject the passage of a bougie along the œsophagus might remove the inhibitory action of the vagus to a dangerous extent. I readily grant that much can be learned from the passage of a bougie, and as Rolleston remarks in his excellent article in Allbutt's System of Medicine[12] "By means of the bougie, spasm, stricture due to organic cause, and paralysis can be distinguished from each other." All I wish to lay stress on

[6] Brit. Med. Jour., Jan. 1st, 1898.
[7] Proceedings of the Laryngological Society, November, 1898.
[8] Practice of Medicine, third edition, 1898.
[9] Diseases of the Heart and Aorta, 1898. Pp. 850-851.

[10] Transactions of the American Laryngological Association, 1897, p. 30.
[11] The Disorders of Digestion, 1886.
[12] Vol. iii., p. 362.

is the necessity for great caution before deciding to employ the instrument.

SOUNDING THE ŒSOPHAGUS.

A few words as to the passage of the œsophageal bougie. The usual form is that known as Mackenzie's, flattened antero-posteriorly, and, in the words of the advertiser, "I know no better." 13 sizes are made, the measure of each being based on the number of millimetres in the transverse—i.e., their long—diameter. The sizes are reckoned from No. 3 to No. 15. Thus No. 3 measures 3 mm. from side to side, No. 4, 4 mm., and so on through the scale. Nos. 1 and 2 are not made, as they are too small to be of any use. In introducing this the patient should sit in front of a good light with his neck freely uncovered. The upper part of his body and neck is craned forward, while the face is thrown upwards. A moderate sized bougie, from No. 8 to No. 12, is safer to begin with than a sharp-pointed one. It is softened sufficiently by being dipped in warm water. The books always recommend us not to dip it in oil, which is very disagreeable to the patient, but to lubricate it with glycerine. As a matter of practice it has been pointed out by Mr. Hovell that no lubricant whatever is required. It is probable that when any is used it does not pass with the bougie along the gullet—it is mostly deposited in the mouth. The natural secretion of mucus which is sufficient to slide down walnuts, apples, and other hard and angular morsels is quite sufficient to facilitate the passage of the bougie. The instrument should be slightly bent at about an inch from its extremity, so that it will glide easily along the posterior wall of the pharynx. It is then grasped in the operator's right hand about half a foot from its extremity. The left forefinger depresses the tongue so as to reveal the margin of the epiglottis, and at the same time it serves to guide the tip of the instrument behind the larynx. It is then pressed gently but steadily into the gullet. As it passes the cricoid cartilage—especially in cases where the patient spasmodically contracts the upper part of his œsophagus—it is a good plan to make the patient bend his head forwards and at the same time request him to make an attempt to swallow. When he is seen to be doing this the bougie can generally be slipped past the constriction and then, in sailor language, "paid out" into the gullet. This method of "surprising" a stricture is the only one I am conversant with and I think the only one to be recommended. Other methods of "forcing" a stricture appear to me to be too full of risk to be employed. Sometimes the application of cocaine will facilitate the sounding, but it is as well to bear in mind that in neurotic subjects, in whom functional dysphagia is apt to occur, there may be a special predisposition to cocaine intoxication. In many uncomplicated cases some patience, and the trial of different sizes, is required; but if not soon successful, and there is no indication demanding the immediate passage of the instrument, I think that, if the patient shows much nervousness and tendency to spasm, it is wise to defer the examination. Once the patient gets nervous the difficulty of passing the instrument is greatly increased, whereas at a second visit he is more reconciled to the idea, especially if the procedure is approached with confidence. The administration of a general anæsthetic is rarely required.

When the bougie is felt to encounter an impassable obstruction, or when it is grasped in a stricture, it should be seized on a level with the incisor teeth before being withdrawn. It will be remembered that the upper margin of the œsophagus is 6 in. (from 15½ to 17 cm.) distant from the front teeth and that the stomach is reached at a depth of 15½ in. In functional dysphagia the bougie can always be passed. The resistance it meets with is, in my experience, always at the superior constrictor of the œsophagus. Once this is overcome the bougie is felt to be free and easily moveable. In pressure-pouch the bougie will sometimes pass into the pouch and its tip can then be felt on one side of the neck. If two metal bougies are passed, one into the pouch and the other down into the stomach, and a Roentgen photograph be taken, the situation and relation of these two bougies will be seen. Malignant disease occurs with almost equal frequency at either end of the gullet. It may be quite impassable. If a passage is found through it the bougie continues to be grasped by the stricture and is not felt to yield on moving the instrument up and down. Its withdrawal is often accompanied with some blood.

PROGNOSIS.

The prognosis of these cases is good in so far as regards the length of days. As regards their duration, some remain unaltered for years, continuing to nourish themselves sufficiently on fluids. In some the symptoms are intermittent. In many they recur after relief by treatment.

TREATMENT.

The experience of the study or out-patient room might lure us into the conviction that such cases are readily curable, and it is often said in an offhand way that the passage of a bougie is sufficient to cure functional dysphagia. No doubt in a large majority of cases a striking result is speedily brought about. Possibly the laryngologist's *mise en scène* conduces to this rapid result. The darkened room, the glaring bull's-eye lamp, the flashing frontal mirror, and the long, glittering, red bougie which is seen and felt disappearing, apparently by the yard, down the gullet are doubtless all calculated to make an impression on these generally hysterical subjects. If to this procedure strong suggestion is added the patient will generally go straightway and consume a good solid meal with ease. But only too often, and particularly if after-treatment is not followed up, their dysphagia recurs. Some present themselves again and are again relieved; the older cases probably go elsewhere, where they know the bougie is not so readily produced, and a large number refuse to consult anyone and cling to a condition which not unfrequently gives them a local reputation. I have known several cottagers' wives afflicted with this malady—poor women leading a hard life, the hardness of it being increased by the necessity of expending money on milk, eggs, and beef-tea, and who either refuse any treatment or who, having once been relieved by the passage of a bougie, decline to have recourse to it again. Weir-Mitchell writes:[13] "You will be well if you escape this exasperating disorder in your early hysterical cases. It is most enduring and difficult of relief." Personally I have generally found that the mental effect of the passage of the bougie has acted admirably. I have never had recourse to intra-œsophageal electricity and I imagine that it might not be without risk. It is most important to keep up the influence of suggestion. A large number of cases are remarkably anæmic, whether as cause or effect I am unable to say. A long course of hæmatinics is therefore frequently indicated. The further details of treatment do not require particular mention. Our whole armamentarium against hysteria may be called into requisition, and in addition to the nervine tonics we may have to persevere with diet, change, rest, spa treatment, massage, general electricity, &c.

In those cases where a reflex point of irritation is discoverable the treatment is obvious. The irritation must be combated and, if possible, removed. Ovarian or uterine irritation as well as gout and rheumatism may require attention. The cases where the condition is chiefly one of "aphagia" are generally the result of some functional spasm or are associated with it, so that the same treatment is applicable to both forms of functional dysphagia. In the diagnosis of many of these cases we would do well to remember that carcinoma is the most common of all the affections of the œsophagus. In approaching the diagnosis of any case of dysphagia we should have present to our minds the following possibilities in the following order of frequency — cancer, aneurysm, other forms of ulceration (traumatic, syphilitic, and tuberculous), and functional disease. The old advice is very applicable in cases of dysphagia—viz., to hope for the best and prepare for the worst.

Queen Anne-street, W.

[13] Loc. cit.

DEVON AND EXETER HOSPITAL.—At a meeting of the governors of the Devon and Exeter Hospital held on Nov. 24th the financial position of the institution came under discussion. One of the governors stated that when it was decided to erect the present new buildings the expenditure was estimated at about £12,000 and a contract was entered into for that amount. He added that at present they had spent £25,000, they owed a further sum not yet ascertained, and they had used all the money given and specially subscribed; they had further sold out stock which brought in £800 per annum towards the maintenance of the hospital. In conclusion he moved that the further work, for which a tender of £4500 had been accepted, be not proceeded with and that a sum not exceeding £700 be expended upon necessary improvements. The motion was eventually carried by 27 votes to 2.

THE MOSQUITO AND THE MALARIA "PARASITE."

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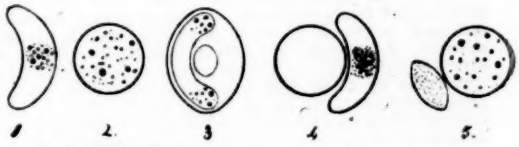
IN THE LANCET of Nov. 13th, 1897, Dr. MacCallum of the Johns Hopkins University published an account of a "sexual process" in halteridium, a body which is stated by Dr. Patrick Manson to be "an intra-corpuscular parasite of birds closely allied to the malaria parasite in man." In THE LANCET of Feb. 12th following it was pointed out that Dr. MacCallum's description appeared to be modelled after the account of the fertilisation of the ovum by von Beneden, in the section on Embryology by Professor Schäfer, in Quain's Anatomy. No explanation has been offered of the similitude between the two accounts. The subject is one of such vast importance that the leading facts of both descriptions are reproduced here:—

VON BENEDEN. *The fertilisation of the ovum.*	MACCALLUM. *The fertilisation of the Laveran body.*
1. The spermatozoon embeds itself in the ovum.	1. One flagellum plunges its head and wriggles its whole body into the female sphere.
2. The ovum becomes slightly protruded at the point of contact.	2. A conical process appears at one side of the female organism.
3. One spermatozoon only embeds itself in the ovum.	3. One flagellum only embeds itself in the female sphere.
4. As the spermatozoon passes towards the centre of the ovum it exerts a peculiar action upon the granules.	4. As the flagellum passes into the centre of the female sphere the "granules are churned up."

The offspring of Dr. MacCallum's fancied "sexual process," which was warmly welcomed and heralded by the zealous Professor Osler, was depicted by him as an organism of spindle shape with a hyaline beak, which "*may be* the resistant form which escapes from the body during life into the external world." The words "may be" were italicised in order to call attention to "the ingenious way the plasmodists have of throwing out a hint or suggestion which is afterwards quoted by themselves as an approved scientific fact." Events have demonstrated the entire reasonableness of this *caveat*. Dr. Patrick Manson has recently quoted Dr. MacCallum's version as an approved scientific fact and Major Ronald Ross has made it the sole basis of his romantic verification of Dr. Manson's hypothesis that the mosquito is the liberating agent of malaria as well as filaria. It is obvious that if Dr. MacCallum's account of the fertilisation of the Laveran body is not founded upon fact the whole of the mosquito theory of malaria falls to the ground.

The facts with regard to the Laveran body in the blood in malaria and its *alter ego* in the blood of healthy birds are as follows. In malarious fever in man when the spleen is not very much diseased cells are found in the blood, either intra- or extra-corpuscular, which contain dark granules similar to the granules of the leucocyte. These cells are called after their discoverer Laveran bodies or plasmodia. *They are not found in all cases of malarious fever.* Therefore they cannot be the cause of the disease. When the granules in the Laveran body are scattered throughout its protoplasms its shape is spherical; when they are collected in the centre of the cell it becomes spindle-shaped and semilunar and it is known as the malarial crescent. In drawn blood, if the relative density of the fluid in the cells and that in which they lie is altered, as, for example, by the addition of water, the crescent becomes spherical, the granules dance about with the boiling-water movement of Laveran, and processes of protoplasm are occasionally thrown out which are called flagella. On the other hand, in certain birds which are apparently in perfect health—pigeons, crows, and sparrows, for instance—cells are found in the blood, either intra- or extra-corpuscular, which contain dark granules similar to the granules of the leucocyte. These cells are called by the plasmodists *halter*-idia or proteosoma, according as they are semilunar or spherical in shape. When these cells are intra-corpuscular they are at first spherical. Afterwards they become semilunar because their shape is determined by the nucleus of the red blood corpuscle in which they grow. When they grow still larger they push the nucleus aside and eventually burst out of the corpuscle, and after they become free if the density of the fluid in which they lie is altered, as, for example, by the addition of water, they become spherical, if they are not so already, the granules exhibit the true boiling water movement of Laveran, and flagella are occasionally thrown out.

The so-called halteridia and proteosoma are identical with the Laveran bodies in every respect except one. The one difference between them is that in the malaria crescent the granules are collected in the centre of the cell, whereas in the halteridium and in the early stages of proteosoma they are found principally towards the ends. The following diagram shows the points of resemblance between the Laveran bodies in malarial blood and the halteridium of proteosoma in the blood of apparently healthy birds.



1. The malaria crescent.
2. The spherical form assumed indifferently by 1 when water is added to the blood and by 3 when it escapes from the red blood cell.
3. The "halteridium" in the oval-shaped nucleated red-blood corpuscle of birds, showing how it is compelled by the position of the nucleus to take the semilunar form.
4. The malaria crescent as it is frequently seen in contact with a red-blood corpuscle, showing how it may be compelled by pressure against the round blood cell to take the semilunar shape.
5. The "halteridium" free, having attached to it, as it almost invariably has, the nucleus of the red-blood corpuscle in which it grew.

The semilunar shape of the Laveran body, whether intra- or extra-corpuscular, must be regarded as due to mechanical causes and adventitious; and whether these bodies—the plasmodium, halteridium, or proteosoma—are met with in the blood or man or of birds they are one and the same thing, and to save confusion and misleading error they should all be called by the one name of Laveran bodies.

The following facts have been established by an examination of the blood of birds in the laboratory of the Hyderabad Medical School. 1. Laveran bodies are found in the blood of apparently healthy birds. 2. They are not found in the blood of birds before they are fledged and leave the nest. This was pointed out originally by Captain Johnston, I.M.S. 3. They are not met with in the blood of all birds. In 101 sparrows examined they were found in the blood in 81 per cent.; in 36 crows in 70 per cent.; in 38 pigeons they were found in every one of 32 adult birds; none were found in the blood of any unfledged birds or in that of 10 ducks, 12 fowls, and 4 hawks. 4. The Laveran bodies in birds, like those found in malarial blood, cannot be cultivated in pure media outside the blood. 5. The Laveran bodies cannot be propagated or reproduced by inoculation. 6. Two young unfledged pigeons were brought up by hand in the laboratory. Neither had Laveran bodies in the blood. One was fed on grain and filtered water; the other on grain, on the spleen of a crow and the blood of a pigeon with halteridium, and water taken from malarious swamps. The one fed on filtered water developed Laveran bodies in the blood on the twentieth day;[1] the one fed on swamp water and halteridia has not yet developed them. 7. The temperature of the birds, and the size and weight of their spleen, bear no relation to the Laveran bodies found in the blood. 8. No such phenomena as "*ex*-flagellation" or a "sexual process" was ever observed among the Laveran bodies. Flagella sometimes separate from the cell from which they are thrown out originally as processes of protoplasm, but this only takes place in drawn blood as part of the process of their ultimate disappearance.

We are now in a position to form a correct opinion as to the accuracy of the Ross-Manson hypothesis of the mosquito and malaria. Before considering it there are one or two points which demand some explanation. In the first place the average length of an ordinary mosquito's body in this part of the world is about 3 mm. In the diagram of the insect's empty stomach given with Dr. Manson's paper in the *British Medical*

[1] The young pigeon fed upon swamp water is since dead. We tried to colour the blood corpuscles during life by subcutaneous injections of methylene blue, but it died after the second injection. On post-mortem examination the heart was found to be coloured bright blue; very few of the blood cells had taken the stain.

Journal the length of this organ, together with the cut ends of the œsophagus (*sic*) and intestine, is 2·5 mm. according to the scale appended to the diagram by Major Ross. In the second place Major Ross refers repeatedly to feeding mosquitoes on the blood of sparrows and larks. It would be interesting to know if these birds were plucked beforehand as it is almost an impossibility for a mosquito to sting a bird and suck its blood as long as the feathers are intact. In the third place Dr. Manson and Major Ross write of the dissection of a mosquito as if it were child's play; "hecatombs of mosquitos" were treated in this way "in the cause of science"—245 in one batch and 249 in another. This is far too easy. Let any one who is inclined to regard the dissection of a mosquito as an easy matter try it and he will find that even with a very high-power dissecting microscope it is impracticable to display the insect's stomach in such a manner as to be able to count "pigmented cells" on its wall.

The story as told by Dr. Patrick Manson of Major Ronald Ross's discoveries with regard to the mosquito and malaria may now be briefly referred to. About a year ago Major Ronald Ross discovered a cell containing pigment in the stomach of a "dapple-winged" mosquito, and the optical characters of this pigment "were such that it seemed to be in every way identical with the pigment which is so characteristic of the malarial parasite." It has never been proved yet that there is any connexion whatever between malarious fever and "pigment," and it is not pretended that there was anything but "pigment" to identify this pigmented cell of Major Ross's with malaria, but on these slender grounds Major Ross "was sure that he had now discovered the extra-corporeal form of the malarial parasite. Here, however, fact and theory seemed to diverge. Fortunately at this juncture help came from America." The help from America consisted of Dr. MacCallum's "sexual process," the results of which are described and improved upon by Dr. Manson in graphic terms: "After a time the impregnated spheres changed shape and acquired locomotive powers—became, in fact, *travelling vermicules* containing the entire substance of the original halteridium, including its pigment. They exhibited great powers of penetration. Depend upon it this locomotive penetrating power has a purpose."

It is a pity that before putting forward a controvertible theory as an approved scientific fact Dr. Manson and Major Ross did not take steps as they were bound to do to confirm Dr. MacCallum's observations on the locomotive penetrating animal with the hyaline beak. This would have been a simple matter if Dr. McCallum's animals actually existed in the blood, but it was not done, and the story, which Dr. Manson truly says is "a really marvellous story," may be continued for what it is worth from this point by Major Ross. Having opportunely discovered the "pigmented body" in the dissected stomachs of mosquitoes fed on the blood of malarious sparrows Major Ross asserts that because Dr. MacCallum's halteridium organism with the hyaline beak possesses locomotive penetrating power which enables it to "pass indifferently," according to Dr. MacCallum and Dr. Manson, "through red blood corpuscles and white blood corpuscles," therefore his "pigmented body," which is the unattested offspring of proteosoma, must also possess the power of penetration and consequently of passing indifferently through the wall of the mosquito's stomach. This is, of course, a *non sequitur*, nevertheless it is a fair specimen of plasmodial logic. When once the proteosoma organisms have penetrated as far as the outside of the mosquito's stomach it is an easy task to call them "proteosoma coccidia" and to trace their progeny in the form of Major Ross's "germinal rods"—first cousins apparently of Dr. Manson's "travelling vermicules"—through the "well-known white blood of the mosquito," into its poison gland, out again through its proboscis, and so back into the circulation of man and birds. Thus happily is the *rôle* of the mosquito in malaria completed by Major Ross on the lines conjectured by Dr. Manson. Henceforth in order to free the world of malaria it is only necessary to free it of mosquitoes. The *British Medical Journal* recommends the Government of India to do this by "the application of kerosene once a month to the surface of their breeding pools."

This, then, is the outcome of malarial parasitology, a crusade against the mosquito. Although not one single theory of fever based upon this "science" is founded on a proved fact, and notwithstanding that it is known that pools constitute one only of the many places in which the mosquito breeds, all the water in India is forthwith to be polluted once a month with kerosene. That a crusade against mosquitoes should be gravely proposed by a very influential section of the medical press is strong evidence of the profound disorganisation of professional opinion which has resulted from the speculations and conjectures of the plasmodists. Fortunately, certain facts are known about malaria which no hypothesis and no amount of sophistry or untruth can alter. 1. The commonest form of malarious fever is the quotidian, in which there is an attack every day, 1, 1, 1, 1, 1. 2. The tertian form of ague is less common, in which there is an attack every alternate day, 1 –, 1 –, 1 –, 1 –, 1 –, 1 –. 3. Quartan ague, in which there is an attack every fourth day, is comparatively rare. 1 – –, 1 – –, 1 – –, 1 – –, 1. 4. In irregular ague the fever is of a remittent rather than of an intermittent type. 5. Quinine prevents and also cures malarious fever. 6. Malarious fever can as a rule be readily and with certainty diagnosed by the history of the case, by the clinical thermometer, and by the condition of the spleen.

These are solid facts which have long been well known to every observant practitioner in malarious localities. It is only necessary to add that it is not possible to diagnose malarious fever, either the fever itself or its type, with any certainty at all by means of the microscope. One case only need be cited by way of illustration. Not long ago a patient was sent to me from the country to be operated upon for an abdominal tumour supposed to be ovarian. I diagnosed the tumour to be a displaced malarious spleen and she had fever every day. If the microscope were reliable in the diagnosis of malaria the point could have been decided in a few minutes, but on microscopic examination there were no Laveran bodies in the blood. The diagnosis had therefore to be settled by quinine, under the influence of which the tumour slowly disappeared. To meet the speculations and conjectures of the plasmodists no less than the requirements of malaria "parasite" an attempt has been made to overthrow the nomenclature of malarious disease. Quotidian ague has to be proscribed because of the difficulty the plasmodists experience of adapting the otherwise plausible and fascinating life-cycle of the "parasite" to a single day. The most credulous individual can hardly be expected to believe that the quotidian "parasite" can in one day as a mere spore chase and capture a red corpuscle in the circulating blood, get into its interior, grow up and devour its hæmoglobin, digest it and develop "pigment," and then sporulate and give birth to from 10 to 12 young ones. But there is not the same difficulty about swallowing a forty-eight hours' cycle, therefore the majority of "parasites" in future are to be tertians. If anything were wanting to complete the confusion in the profession which has been brought about by the grotesque science of malarial parasitology it is furnished by the amusing, if hurried, African tour of Professor Koch. Koch has announced that there is no such condition as quotidian ague; that he has discovered a new form of tertian ague in which the intermissions occur every

1 2 3 4,1 2 3 4,1 2 3 4,1 2 3 4.

fourth day —, 1 1 —, 1 1 —, 1 1 —, 1 1 —; that the most pernicious form of African fever is nothing but cinchonism; and that the presence of the malaria crescent in the blood is a sign of immunity.

There has been too much unscientific speculation and conjecture with regard to malarious fever, and what is now required is a commission to inquire into the true physiology of the blood-cells, of which very little is known and without which the pathology of malaria will remain a sealed book. Until the physiology of the healthy blood corpuscles is thoroughly worked out speculation regarding the Laveran bodies is necessarily idle. The Laveran bodies are to be looked upon as perverted modifications of the natural cells in the blood, in which they occur as mere "sports," so to speak, of the natural blood corpuscles, and in no way as new or independent formations. The essence of this belief is that the Laveran bodies are products of the blood and are the progeny of the cells already existing there, their physical peculiarities being entirely due to the altered cell formation of natural structures. Formation in a word outstrips organisation, and the offspring of the blood corpuscles—the "sports" or Laveran bodies—fail to arrive at precise resemblance to the parents from which they take their birth.[2]

[2] This passage is taken, *mutatis mutandis*, from the *Times* leading article on Virchow of Oct. 8th, 1898.

NOTES ON A CASE OF BLACKWATER FEVER.

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I MUST express my indebtedness to Dr. Theodore Fisher, of Clifton, for permission to publish the case and also for clinical notes supplied.

The patient was a missionary who had recently returned from Africa. He described an attack of "hæmoglobinuric fever" from which he suffered in September, 1894, when at Benguella on the west coast. That was his first attack. After returning from a cycle ride from Bath to Bristol against a strong wind he was taken ill with vomiting and fever running up to 102·6° F., but without an initial rigor. The next day at 2 A.M., however, he had a severe rigor lasting twenty minutes in which the temperature went up to 103°. On the third day a second rigor occurred, the temperature going up to the same height as before. He continued to vomit at intervals and his condition was considered to be very serious. That evening his urine was noticed to be black, like porter, and his temperature was then 102·6°. On the fourth day the vomiting ceased, the rigors also left him, and the temperature went down to 99°, where it remained for several days. The dense, porter-like colour of the urine remained for fifty hours from its first appearance before any change became evident, when it began gradually to clear up.

Examination of the blood was made twenty-four hours after the last rigor. The count showed the presence of 4,000,000 red cells and 6200 colourless corpuscles per cubic millimetre. The white corpuscles were in the following proportion: polymorphonuclear, 75 per cent.; lymphocytes, 18 per cent.; large mononuclear, 4 per cent.; and coarsely granular eosinophile, 3 per cent. The examination of the fresh specimen of blood showed absence of rouleaux formation; there was very little distortion of blood-cells either in shape or size, and no organisms were visible. In specimens of blood fixed in Gulland's solution and counter-stained with methylene blue the following changes were noticed. The most obvious point was the presence of a considerable number of faded or phantom-like red cells which looked as if they had had the colour washed out of them and presented only a thin pink rim and centre, whilst the more normal cells around them were deeply stained with eosine. These corpuscles were not distorted or in any way broken up, neither did they contain any malarial organisms. In the examination of 6 or 8 films of blood about 8 definite intra-corpusclar malarial organisms were seen, all of a spherical shape and containing a dot of black pigment. All of them were small, none of them nearly filling up the cell they inhabited. In one place a rosette-shaped organism had evidently just broken up, as there was a collection of 8 or 10 spore-like bodies loosely arranged around a small mass of pigment. There were a considerable number of faintly stained extra-corpuscular bodies, mostly in groups of 2 or 3 from which could be traced delicate flagella. The blood which had been collected in the pipette of a Thoma Zeiss hæmocytometer was re-examined after two days and there was a great increase apparent in the extra-corpuscular variety, as numbers of actively motile organisms were seen hurrying about the field. These when examined with an oil immersion lens were seen to be spherical and not bacilli, although owing to the free dilution of the blood with saline solution at the time of its withdrawal satisfactory permanent preparations could not be obtained.

Examination of the urine was unfortunately not carried out until it had almost regained its normal colour. Spectroscopic examination revealed a faint hæmaglobin band. The reaction was acid. The specific gravity was 1015. There was no albumin or reducing substance. There was a dirty-brown sediment. Microscopical examination showed the presence of some reddish-brown granular tube-casts and also numbers of small rounded cells resembling the bladder epithelium cells and containing some refractile spherical bodies. There were no blood corpuscles. Scattered about the field were seen small clusters of oval transparent bodies collected in groups of about 4 or 6, and sometimes smaller individuals were seen radiating from the central group. They stained easily and deeply with methylene blue and were seen to be growing by gemmation. The urine, which had been kept in a stoppered bottle, was examined at the end of a few days and the number of these bodies was found to have considerably increased. Some of the sediment was added to a solution of glucose in water and put in a warm place. When examined at the end of forty-eight hours the fluid was turbid and there were considerable numbers of these torulæ, but there was no decrease in the specific gravity of the liquid nor was there any gas formation. Thus, although they seemed to be some kind of torula, yet it was evidently not the common yeast plant. Some such bodies as these have several times been noticed by other observers in the urine of patients suffering from hæmoglobinuric fever, but their origin and significance are quite unknown.

Shrewsbury.

AN OUTBREAK OF ACUTE DERMATITIS DUE TO ZINC SALT AND ASSOCIATED WITH CLOTHING.

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ON Nov. 23rd, 1898, a man came to the out-patient department of the General Hospital, Birmingham, complaining of a rash on the front of his right wrist which presented the appearance of a patch of urticaria. It was associated with itching, was apparently present on no other part of the body, and there was nothing to distinguish it from ordinary urticaria. The patient ascribed the condition to a new blue frieze overcoat which he had only put on that morning, and he mentioned that several of his fellow workmen who had also been provided with similar new overcoats that morning were suffering from the same complaint. He was immediately succeeded by another man in the same employ who exhibited a rash, also in the region of the wrists and corresponding to the margins of the sleeves. This case presented a somewhat different appearance from the former, and appeared to be a more advanced stage of the same condition. On one of the second patient's wrists was a patch about 1½ in. by ½ in. of numerous minute cream-white spots, and in the middle of each of these there was a hair follicle which stood out as a dark centre. The margin of the patch was outlined by a narrow zone of hyperæmia. This patient complained of a pricking rather than an itching sensation. The second man was followed by others who presented the same appearances on one or both wrists or on the neck. In one of the cases a patch was present on the back of the calf of the right leg, corresponding to the level of the lower margin of his overcoat. For some reason he had omitted to put on his leggings that morning, and as the day was wet the moisture from his coat had soaked through his trousers. Towards the evening other men similarly affected arrived, their cases exhibiting a still later stage in the condition. There were now patches averaging from ¾ in. to ¼ in. They were of a uniform cream-white colour, evidently resulting from the spreading and fusion of the individual minute white spots which I have already mentioned. The patches were slightly depressed and the appearance was now strongly suggestive of necrosis of the epidermis following the application of a strong irritant. On the margins of some of the necrosed patches was an inflammatory zone, while in places the minute white spots were to be seen as before. Tactile sensation at this stage was impaired but not lost. Some of the patches had a somewhat bluish tint, probably due to the dye of the coat. Altogether 21 patients were seen on Nov. 23rd. On the next day (Nov. 24th) the old cases appeared for inspection, in addition to which there were 13 new cases. The old cases more or less presented the same appearance as on the previous evening, but tactile sensation was now entirely lost in the necrosed areas. It was noticed that the appearances were most marked in the neighbourhood of existing abrasions. In 3 cases there was some spreading inflammation up the arm with enlarged glands in the axilla.

There seems no doubt that the cause of the condition described was to be found in some irritating substance contained in the new overcoats. The day being wet the moisture absorbed some of this deleterious material and so

brought it into contact with the skin at the most exposed parts, especially at the wrists. The association of the condition with moisture is confirmed by the fact that one or two boys in the same employment received their overcoats about a fortnight earlier but only exhibited symptoms on the same day as the others, Nov. 23rd being the first really wet day since that time. An infusion of the cloth was made. It had an acid reaction and a sweet astringent taste and on analysis it was found to contain zinc chloride.

Birmingham.

DIPHTHERIA BACILLI IN URINE.

BY H. W. L. BARLOW, M.B. OXON., M.R.C.S. ENG., D.P.H.

IN view of the observations of Captain F. Smith, R.A.M.C., on diphtheria bacilli in the urine of guinea-pigs[1] the following case may be of interest.

The patient, a well-nourished single woman, aged nineteen years, was admitted to Brighton Isolation Hospital on Jan. 8th, 1898, with patches of yellowish membranous exudate containing Klebs-Löffler bacilli on both tonsils, together with moderate pyrexia, a relatively slow but high-tension pulse, and smoky urine. All else was normal: there were no signs of cardiac hypertrophy, there had never been any œdema, and there were no retinal hæmorrhages. She had had small-pox in infancy and influenza a year or two ago, but no other illness except occasional attacks of headache and vomiting. Dark-coloured urine was first noticed on the morning of admission—i.e., the third day. It was acid, it contained both albumin and blood, and it showed urates, casts, and bacilli, some of the latter resembling those of diphtheria. Serum cultures plated out on agar showed on the third, fourth, eighth, twelfth, thirteenth, sixteenth, and twenty-first days of the disease a diphtheria-like organism besides some other forms. This bacillus disappeared as the nephritis wore off (no bacilli and very little albumin were found on the fifteenth day) and reappeared for a short time with a relapse on the sixteenth day, ultimately disappearing altogether. In one doubtful instance only did cultures from other urines in the ward show an organism at all similar to this. A pure culture obtained by plate cultivation was compared step by step with similar cultures of the same age of long Klebs-Löffler bacilli from a fatal case, of Hoffmann's pseudo-diphtheria bacillus, and of a doubtful form isolated from the throat from another case. The last-named proved quite distinct and need not be further considered. The points of difference between the organism from urine and the Klebs-Löffler bacillus did not amount to more than are usually present between the three or four different types of diphtheria bacilli in throat swabs. These bacilli were just as characteristically irregular in form, but they were shorter and apparently of more rapid growth. Their distinguishing features were, first, no growth on gelatin at room temperature; secondly, alkaline glucose broth acidified within twenty-four hours; thirdly, each bacillus showed three or four granules apiece when stained with methylene blue and bismarck brown; and, fourthly, both colonies and streak cultures only differed from those of Klebs-Löffler in minor details. Owing to an accident their pathogenicity to guinea-pigs was not tested. A remarkable point is that cultures could be obtained from the acid urinary sediment after standing for eight days at the room temperature; but this does not, as was first thought, militate against the organisms being diphtheritic, for Klebs-Löffler bacilli not only live but multiply in faintly acid peptone broth containing urea if kept at 37° C. The bacilli in the throat swab were both long and short, the latter being most persistent. The urine always reacted acid to litmus to a degree not determined.

Day of Disease.	Amount in 24 hours.	Grammes nitrogen.	Grammes albumin.	Grammes chlorine.
4th	425 c.c.	2·8	5·1	0·47
8th	760 c.c.	4·4	7·6	0·98
19th	850 c.c.	7·4	4·25	1·36
26th	1650 c.c.	9·1	4·9	4·45

[1] THE LANCET, Nov. 19th, 1898.

Some kind of micro-organism might nearly always be found in urine and it would not be supposed to have reached it through the kidney unless all other paths were closed. Though cleanliness was ensured it was manifestly impossible in this case to take all the precautions which Captain Smith adopted and it must remain to that extent inconclusive. The presence of other forms shows that contamination did occur, but they were variable and the diphtheria constant and if not explained by a kidney infection the casual co-existence of nephritis and bacilli on seven or eight occasions throughout a fortnight or more would remain a rather curious coincidence.

Diphtheritic nephritis, always rare, is decreasing year by year in the metropolitan hospitals. During the last three years it occurred in only 0·77 per cent. of over 13,000 cases and, taking 1897 alone, the percentage is less than half this—namely, 0·34 per cent.—while that of albuminuria remains about 45 per cent. Bacilli have been found post mortem in the kidney by Kanthack and others, but they do not seem to be always associated with nephritis, and if found in other cases their presence is evidently exceptional.

Urmston.

THE TREATMENT OF WHOOPING-COUGH

BY G. ARBOUR STEPHENS, M.D., B.SC. LOND.

I HAVE lately been investigating the subject of whooping-cough, by which I mean the very infectious disease characterised by a convulsive cough terminating in the readily recognised "whoop." In this investigation I have been considerably assisted by the fact that Mr. Hubert Thomas placed a large number of the cases of this complaint which existed extensively in his district at my disposal. My attention was particularly drawn to the subject by a small experiment upon myself. When I had an attack of pharyngitis I found that by tickling the external auditory meatus or the tympanum I produced a cough with the characteristic "whoop." This led me to inquire into the state of the patients' ears in cases of whooping-cough and in nearly every case I found that they either had pain in their ears, as evidenced by the fact that they resented their mothers' washing or even touching those organs, or else that there existed a semi-fluid discharge which in some cases had been present for some time. Having found such a persistent sign or symptom I decided to find out whether treatment applied locally might ease the pain or diminish the discharge and by so doing modify or terminate the course of the disease

The course of treatment I decided on was as follows. I syringed out the ears night and morning with lukewarm boric lotion or water and applied to the meatus and tympanum a paint consisting of 23 gr. of hydrochlorate of cocaine, 4 drachms of glycerine, 20 minims of solution of perchloride of mercury, and water to 1 ounce. The result of this treatment was that in every case the patient was benefited and the whooping-cough was got rid of. In many cases, in addition to what I consider the essential symptoms of whooping-cough, there were present bronchitis, pharyngitis, or laryngitis. These, I need hardly say, did not yield to the treatment above described, and in some cases they persisted for several days after the "whoop" had disappeared. As has been often noticed by other observers the whooping-cough followed in the wake of measles, and in those cases which did succeed measles there was nearly always found a discharge which had continued from the prior attack of measles. In the first few cases I had some trouble in introducing such a novel form of treatment as a substitute for the more othodox bottle of medicine, but having got the first few patients better their friends and relations paved the way for the others. The following are a few of the cases:—

CASE 1.—A boy, aged four years, had had cough for two or three weeks and a discharge from the ears for eleven months. With the cough there was vomiting. The mother "could not touch the ears" owing to the pain. The ears were syringed and painted. The child slept better the same night and "whooped" much less the next day, when the ears were again syringed and painted. On the third day the child was not very bright and the tongue was furred, but the "whoop" continued to improve and the patient had had a very good night. I ordered a dose of mercury with chalk. The child was decidedly better on the fourth day, having

only "whooped" once in the twenty-four hours, and on the fifth day he was out playing and quite free from "whoop."

CASE 2.—A girl, aged seventeen months, had had cough with "whoop" for a week and, as in Case 1, there was vomiting with the cough. For six months there had been discharge from the ears. The child frequently put her hands up to her ears. There was some bronchitis. Both ears were syringed and painted. On the second day I found the child very peevish and irritable and she was evidently no better. I again syringed and painted the ears. The next day the child was much less peevish and altogether much better. She hardly "whooped" at all, but there was still some bronchitis. On the fourth day she had, it appeared, only "whooped" once in the twenty-four hours and she took food better. The child was practically well on the fifth day, except for an occasional cough, which was, however, unaccompanied by "whoop."

CASE 3.—A girl, aged four years, had had cough with "whoop" and vomiting for from two to three weeks, and the ears had been discharging for six months, "ever since," it was said, "she had had measles." I only syringed the ears but did not paint them. The child was no better on the second day. She had had a bad night. I syringed and painted the ears and she had a much better night and slept well, being only troubled once during the night with a bout of "whooping" cough. On the third day she was much better. She was still better on the fourth day, having hardly "whooped" at all for twenty-four hours, but she "whooped" once or twice in the evening. Syringing, however, stopped it and she slept well. On the sixth day the child was quite well.

CASE 4.—A girl, aged four and a half years, had had cough with "whoop" for two weeks. Her mother had been unable to wash her ears for four weeks. She had had bad nights and her cough was accompanied with vomiting. Her face was puffed with coughing, there was an ulcer under the tongue and a semi-fluid discharge from the ears which I syringed and painted at 6 P.M. The patient slept well till 10 P.M. but had a restless night, though she "whooped" less than on the previous night. On the third day the child, as reported to me, "had not got so phlegmy a cough." She had slept much better on the previous night and had only "whooped" twice between 11 A.M. and 7 P.M. She had not vomited since the first painting. The child was much better on the fourth day. She had had such a good night that the mother was able to sleep throughout the night, an experience she had not had for a fortnight. The child was so well on the fifth day that the mother told me that "the neighbours were asking what medicine she had had."

CASE 5.—A boy, aged two and a half years, a brother of the little girl mentioned in Case 4, had a nasty cough with vomiting but no "whoop." The remark made to me was that the child "looked exactly as if he were going to have whooping-cough." I syringed and painted the ears. The boy slept well and the next day I found that there had been no vomiting since. The patient had quite lost the cough on the third day and developed no "whoop."

CASE 6.—A girl, aged four years, had been suffering from whooping-cough for sixteen days and had had very bad nights. There was discharge from both ears and I painted and syringed them. I saw the patient four days after. She was no better, though the first night after painting she slept very well. I again painted and syringed the ears and the next day the child was much better, the "whoop" being considerably less. The child was practically well on the sixth day, so much so that the mother ceased to bring her to me.

CASE 7.—A girl, aged two years, a sister of the patient in Case 6, had had whooping-cough for fourteen days, with very bad nights. She coughed till she, in the mother's words, "got black in the face." There was discharge from both ears, which I syringed and painted. The child had a good night and on the next day took food much better. She hardly whooped at all on the following day and she became quite well on the fourth day.

CASE 8.—An infant, aged three months, had had whooping-cough for three weeks. As in the previous case it was said that "she got black in the face." Both ears were discharging and I was told that she had had "two fits." The ears were syringed and painted. The child had a better night and "whooped" less the next day and took the breast better. She again had a good night, having only "whooped" once and she has not "whooped" since.

I have given these 8 cases as typical of a cough which after being under treatment for a few days entirely lost the bouts of "whooping," though in some cases bronchitis lasted for several days. I could add many other cases to show both the ear symptoms and the effect of local treatment but do not think it necessary. As an explanation of the pathology of these cases I consider that there is a small local inflammation in the meatus starting independently of or succeeding to an attack of measles, and that this inflammation irritates the nerve filaments which are connected with the root ganglion of the vagus and so stimulates the vagus itself in some or all of its branches. The laryngeal branches will account not only for the spasm but also for the "whoop" by producing a temporary trophic lesion of the laryngeal mucous membrane against which the cold air, which is invariably drawn in through the mouth, strikes. I also think a similar trophic lesion of a temporary nature occurs in the stomach and lungs by a passing irritation of the vagus branches which results in the secretion of a large amount of mucus.

I have made an attempt to cultivate some bacteria from the ear, but so far I have not succeeded. There is one difficulty in the way of such cultivation, and that is that in a large number of the cases the patients are dirty and live in dirty houses. However, whether the cultivation be successful or not, I trust that I have shown that by syringing and painting the ears a great improvement can be produced, which is, after all, of greater consequence to the little patients than the cultivation of any amount of germs.

Swansea.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF CYST OF THE GREAT OMENTUM REMOVED BY OPERATION.

BY JAMES BRAITHWAITE, M.D. LOND.,
OBSTETRIC PHYSICIAN AND SURGEON TO THE LEEDS GENERAL INFIRMARY; EDITOR OF THE "RETROSPECT OF MEDICINE," ETC.

A FEMALE child, aged four years, was brought to me in December, 1897, in consequence of the abdomen being swollen. The abdomen clearly contained a large amount of fluid which, as it lay in front of the bowels, presumably was encysted. The whole of the front of the abdomen was dull on percussion except for about 3 in. below the ensiform cartilage. Both loins were resonant. The least touch caused a fluid wave from side to side. Presumably, therefore, the fluid was thin in consistence and the cyst, whatever it might be, was probably unilocular. The body measured 1 ft. 10½ in. round at the level of the umbilicus, and this increased 1 in. during the next two months. Otherwise the child appeared to be in good health and was described by its parents as "very energetic." I recommended operation and this was done on March 10th last. Mr. Appleyard o Bradford gave ether and Dr. Lawson of Hebden Bridge and Dr. Oldfield of Leeds assisted me. The cyst was found to be entirely in the great omentum and was, except for an adhesion to the intestine, removed without any difficulty. It contained three and a half pints of fluid which was clear and watery. Necessarily a certain amount of the omentum was removed with the cyst. When opened the fresh cyst showed on its inner surface a number of iridescent patches almost like mother-of-pearl. These, however, now show much less distinctly, as it has been kept in spirit eight months. The child recovered rapidly and satisfactorily except that there was a small stitch abscess at one spot.

The extreme rarity of omental cysts seems to render this case worth publishing. I have not been able to find records of more than six such cases. The most interesting is one related by Mr. Alban Doran for Dr. Bantock in the Transactions of the Obstetrical Society of London, 1881. This was a cyst of considerable size, and the case was precisely parallel to the one I have related except that it occurred in an elderly woman. There is a case of what is called "a remarkable cyst in the omentum" related by Dr. Gairdner in the Transactions of the Pathological Society of

London, 1851-52. The only German case which I can find is one by Schwartzenberger, published in 1894. He styles it "a multilocular lympho cyst of the omentum." Besides these there are 2 other cases, 1 in the *Medical Times and Gazette* in 1862 and the other in the *Medical Press and Circular* in 1883. Mr. Alban Doran mentions, too, that there is a small omental cyst without any clinical history contained in the Museum of the Royal College of Surgeons of England.

The cyst belonging to the case which I have related, when empty and collapsed, is about as big as a large cocoanut and its walls are tough and strong. When distended with fluid at the time of the operation the walls were thin and of the bluish colour seen in an ordinary ovarian cyst. It is impossible from an examination of this cyst to say in what structure it had its origin. It is now in the Museum of the Medical Department of the Yorkshire College.

Leeds.

A NEW METHOD IN SHOULDER PRESENTATIONS.

By A. J. TURNER, M.D. DURH.

IF there is one form of presentation in midwifery practice which a busy practitioner dislikes more than another to encounter I suppose it is the shoulder, especially if well advanced before it comes under his notice. I have therefore been prevailed upon to describe a method which I have made use of for the last ten years, for though happily these cases are comparatively rare it has been of great practical value in five.

In the first stage, the arm of the fœtus being protruded, it is doubled at the elbow, the fingers resting on the shoulder, forming as it were the point of a wedge which is now pushed back again into the uterus, in the interval of the pains, the upward movement being continued by the operator's bent forefinger pressed against the shoulder. In the second stage the accoucheur's middle finger is extended and by preference placed in the mouth of the fœtus or on some firm bony point of the head. Now, with the assistance of the operator's other hand external to the mother's abdomen, the head is drawn into a better position, where, should the pains still be strong, it may be left to nature, or the instruments applied if considered advisable.

This method saves all efforts at podalic version, over-distension of the uterus by the addition of the hand (only two fingers actually entering the uterus), as well as decapitation, &c. It may be made use of after the arm has been protruded for some time and takes but a few minutes to perform.

The cases alluded to had been in hand for from one to ten hours before coming under my care and in all of them the infants have been born alive with the exception of one in which the arm had protruded for ten hours and was then quite black from congestion and in which the infant gave but a few spasmodic movements after delivery.

Bournemouth.

LEAD POISONING IN AN INFANT FOUR WEEKS OLD.

By FREDK. W. M. STEPHENSON, M.B., C.M. EDIN.

I VENTURE to think that the particulars of this case—unique as far as my experience goes and, I believe, at least uncommon in that of others—may be of general interest. On Oct. 10th, 1898, I attended a patient in confinement. The child was well nourished and healthy and continued so until the end of my visits about a week afterwards. On Nov. 8th I was hurriedly sent for, the message stating that the infant was dying. I was informed by the mother on my arrival that the child appeared to her to be just recovering from a fit. I found the patient evidently in considerable pain, screaming violently, and with the legs flexed upon the abdomen. My first and most natural conclusion was that these symptoms indicated colic due to imperfectly digested food, but on examining the tongue I noticed an unmistakeable blue line on the gums. This with a history of constipation was quite sufficient to confirm my diagnosis that lead was the cause of the trouble. The child had never taken milk from the breast, but the feeding bottles were, I found, above suspicion, as well as the water-supply and general surroundings. Finally I discovered that the nurse, considered an experienced woman, had been freely dusting the child with a powder, procured by herself quite innocently from a local chemist, and which was shown to me in a packet bearing the label "Powdered White Lead." This had been liberally dusted about the neck and behind the ears, and consequently would at such times be freely inhaled. In addition the powder had been kept loosely upon the mantelshelf where the feeding bottle and a "dummy teat" were frequently placed.

I am pleased to be able to add that under the usual treatment, modified to suit the age, the child is making a good recovery.

Blackburn.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

DERBYSHIRE ROYAL INFIRMARY.

A CASE OF CEREBRAL TUMOUR; NECROPSY.

(Under the care of Dr. G. H. MILNES.)

THE success which often attends attempts to localise cerebral tumours is remarkable, but it not infrequently happens, as in the very interesting case reported below, that the data presented by the signs and symptoms are not sufficient to allow any exact diagnosis to be made. The presence of more than one growth increases largely the difficulty; great extension of the growth has a similar effect. In the following case the most striking point is the interference by the tumours with the intracranial venous circulation, leading to dilatation of the collateral vessels. For the notes of the case we are indebted to Dr. H. M. Tickell, house physician.

A man, aged twenty-eight years, a railway guard, applied for treatment at the Birmingham Eye Hospital on May 3rd, 1897, on account of failure of sight, and on examination was found to have double optic neuritis. The first symptom noticed by him, ten weeks previously, was severe pain in the head. Shortly after this he had vomited for some weeks and had pain down the left side of the face, the pain passing off when the sight began to fail and being succeeded by numbness. The only history of previous illness obtained from him was an attack of small-pox three years previously, and syphilis was denied. On the 17th the knee-jerks were found to be exaggerated. A few days later he began to have attacks of vomiting without relation to food and he also complained of pains in the head and at the root of the nose. On June 21st he was admitted as an in-patient of the Derbyshire Royal Infirmary. It was then observed that the plantar reflexes were greatly increased. As regards vision, he had but a bare perception of light, the discs passing into atrophy. He was discharged from hospital on July 10th. There had been no headache or vomiting since his admission and he described himself as feeling much better. On the 14th he came again to the hospital as an out-patient. The next symptom of importance which was noticed was an enlargement and varicose condition of the veins in the frontal region about the middle line. A short time afterwards a similar prominence consisting of a bunch of dilated veins appeared above the external occipital protuberance. On the occurrence of severe headache these veins were observed to become more swollen, thus indicating that the headache was due to increased cerebral pressure. On Nov. 15th he was re-admitted into the hospital. He was then quite blind from optic atrophy. There were occasional occipital headache and continual numbness of the left side of the face and all round the mouth. He also had pain in the eyes, especially the right eye. On Dec. 4th there were

frequent occipital headache and vomiting and increased varicosity of the frontal and temporal veins. He was again discharged on Jan. 8th, 1898, but on March 11th he was admitted into the hospital for the third time suffering from much vomiting and headache. The next day he had an attack of convulsions and was unconscious for twenty-five minutes. These convulsions were at first general, but towards the end of the attack the features were drawn to the left side. He afterwards complained of pain all down the left side. On April 22nd he was strange in manner and he passed urine unconsciously. The varicose veins, especially those at the back of the head, were much swollen. He was again discharged on June 10th. On August 1st the sense of smell was found to be absent, and, becoming worse, he was again admitted to the hospital on Sept. 10th. He was found to be very much weaker and more wasted than when he was last in the hospital. He frequently rambled and muttered but was at times quite conscious and was able to answer simple questions. The lips and both sides of the face and forehead with the front of the tongue and the hard palate were insensitive to touch. An examination of the eyes showed paralysis of the orbicularis, the conjunctivæ were inflamed, hazy, and quite insensitive, but some movements of the eyeballs were noticed. The mouth was always half open and there was double facial paralysis. There was no paralysis or anæsthesia of the limbs, the knee-jerks were excessive, and the plantar reflexes were greatly exaggerated. On Sept. 21st his head was found to be turned stiffly to the left. The left forearm was flexed and kept close against the chest. No movement of the arm was seen. Death occurred on the following day.

Necropsy.—At the post-mortem examination the body was found to be emaciated. Visible grooves in the calvarium marked the course of the dilated veins which had been observed during life in the frontal and temporal regions. The occipital veins were engorged. The scalp adhered to the bone more firmly than in a normal condition; and there was a thickening of the connective tissue under the situation of the frontal mass of veins. The skull was thinned in three places—in the frontal region and at one spot on each parietal bone. These spots corresponded to the prominences of the convolutions under the dura mater, which structure was somewhat adherent at those points and engorged with blood. The absorption of skull in the frontal region corresponded to a large solid mass occupying the greater part of both frontal lobes—two-thirds of the mass occupying the right frontal lobe and one-third the left. The falx cerebri in this region was involved in the growth and was unremovable. The fissure of Rolando and the ascending frontal convolutions were uninvolved on either side. The other frontal convolutions could not be recognised. There was great varicosity of the veins of the whole vertical region, one special prominence on each side corresponding with one of the thin spots on the parietal bones, and at these points the varicose veins inside and outside the skull appeared to communicate. The whole brain substance was hyperæmic, the venæ Galeni being especially enlarged and varicose. The right lateral sinus was full of clot, in some places partially organised and softly adherent to the lining membrane of the veins, which at those points was roughened. The superior longitudinal sinus was not obliterated at any point, but at one spot about 1½ in. posterior to the tumour its lumen was markedly contracted, apparently from old inflammatory thickening. The origin of the inferior longitudinal sinus was completely obliterated by the growth, but its central portion was open and contained no blood or clots. The lumen of this sinus at its junction with the straight sinus appeared to be entirely obliterated by an old inflammatory thickening. This thickening appeared to involve the mouths of the venæ Galeni, for a fine bristle could not be passed from the veins into the sinus. Along the superior longitudinal fissure the membranes were softly adherent in many places which seemed to correspond to the areas where the varicose veins were most marked. The ventricles of the brain were normal excepting the right lateral ventricle, the anterior horn of which was greatly enlarged and ran forward round the outer border and underneath the growth and even in front of it, being in close relationship with a cyst in the substance of the growth which contained about two drachms of fluid and did not communicate with the ventricle. The veins of this right lateral ventricle were very much enlarged. The olfactory nerves were flattened and the olfactory lobes were atrophied, apparently from pressure. A portion of the tumour was sent to the Clinical Research Association and the following report upon it was made: "This tumour is composed of interlacing bundles of spindle-shaped cells with large areas of hyaline change between the bundles. It is certainly a sarcoma, but with a very low degree of malignancy." Under a $\frac{1}{12}$th objective distinct traces of fibrous structure could be discerned in the substance between the bundles. Several small cysts were found in the tumour.

Remarks by Dr. TICKELL.—In the above case we were fortunate in obtaining the records of observations almost from the first-noticed symptom, and the effects of the gradual extension of the disease up to its fatal termination can be followed. The diagnosis of "cerebral tumour" was made with some confidence at quite an early stage, but the question of localisation was complicated by the fact that the symptoms did not appear to be capable of explanation on the supposition of a single tumour, and even the result of the necropsy did not supply an entirely satisfactory solution of the problems involved, but it was nevertheless instructive. During life there was no question as to the presence of a cerebral tumour, but it will be gathered from the history that its situation could not be ascertained with sufficient precision to allow of any suggestion of an operation for its removal. It has been mentioned in the notes that severe pain was frequently complained of in the occipital as well as in the frontal region, and therefore this case bears out the observation that no deduction as to the site of a tumour in the brain can be drawn from the position of the headache. In considering the localisation of the tumour the following important features required explanation: 1. The presence of dilated veins in the scalp which formed especial prominences about the middle line. This condition pointed to obstruction in the longitudinal sinuses and the consequent establishment of a collateral venous circulation. The necropsy showed obstruction at the commencement of the sinuses and also at the posterior part of the inferior longitudinal sinus; it is probable that the latter had the most important effect in impeding the venous flow. 2. Paralysis of nerves. The fifth nerve was partially paralysed early and the seventh nerve later in the case. The olfactory nerve was probably paralysed a considerable time before the discovery was made. Paralysis of the third nerve in the later stage could not be definitely excluded; it was probably involved to some extent, but it was naturally difficult to test accurately the action of the various muscles of the eye. The loss of the sense of smell—an important localising symptom—was doubtless caused by pressure of the tumour on the olfactory bulbs and nerves. The explanation of the paralysis of the previously mentioned nerves was the main difficulty of the case. It is perhaps possible that some minute changes had taken place in the pons about the region of the nuclei of the fifth and seventh nerves in connexion with the altered venous conditions, but there is no direct evidence on this point; and, indeed, the character of the facial paralysis pointed rather to involvement of the seventh nerve after leaving its nucleus. On the whole, then, it seems most probable that these nerves were paralysed in consequence of the general increase of intracranial pressure, of which there was abundant evidence, although at the same time the reason why other nerves escaped the same fate cannot be stated.

LEEDS GENERAL INFIRMARY.

A CASE OF HÆMOPHILIA; OXYGEN INHALATION; RECOVERY.

(Under the care of Mr. W. H. BROWN.)

IT would be difficult to furnish a more typical family history of hæmophilia than that recorded below; and that alone would have justified its publication, but the success of the treatment employed was so striking that it is worthy of a more extended trial. Although the disease has been known nearly a hundred years, having been first observed in 1803 by Dr. J. C. Otto,[1] yet the treatment is usually very unsatisfactory. Of recent years the two most valuable suggestions have been chloride of calcium and extract of the thymus gland. The use of the former was based on the physiological fact that the presence of a calcium salt is

[1] Medical Repository of New York, 1803.

necessary for coagulation to occur, and it is said that it has been found of use; in employing it, however, it must not be forgotten that excess of calcium salts will prevent the occurrence of coagulation. The extract of thymus gland was recommended on the ground that, as Wooldridge showed, the injection of it into the blood-stream of an animal causes almost instantaneous death by intravascular coagulation; therefore this also must be used with caution, but it evidently possesses great influence over the coagulability of the blood. Mr. Brown's use of oxygen by inhalation is new to us as a remedy in hæmophilia, but after this striking case it should certainly be given a trial. For the notes of the case we are indebted to Mr. E. J. A. Dodd, house surgeon.

The patient, a boy aged thirteen years, was admitted into the General Infirmary, Leeds, on Nov. 6th, 1897, with a large swelling on the outer side of the right thigh. A fortnight before he had "sprained" his thigh whilst getting into bed. The family history was as follows. The patient's mother had had 14 children, 7 boys and 7 girls; 6 of the boys were dead, the mother stating that all died from bleeding. The girls were all alive and well; two were married and had borne children. The patient's uncle on the mother's side died from bleeding from the stomach; an aunt also on the mother's side had a son who died at the age of fourteen years from bleeding. The patient's personal history was that he had had many swellings in his joints following slight injuries. He had bled from the gums and nose many times. He had been an in-patient on three former occasions—namely, in 1894 for bleeding from the roof of the mouth following a prick with a pin, in 1896 for bleeding from the gums after a fall, and early in 1897 for hæmorrhage into the knee-joint from a slight accident. On admission the patient was found to be a fairly well-grown boy, but very anæmic. On the outer side of the right thigh there was a large fluctuating swelling, tender to the touch; the skin over the swelling was red and very thin. As it seemed to be likely that the skin would give way a fine aspirating needle was introduced and about 4 oz. of bloody fluid were withdrawn. A firm pad was applied over the swelling. Internally iron was given and the diet included green vegetables and fresh fruit. During the next three weeks the aspirator was used several times, but the swelling refilled. Then a small incision was made through the skin and a quantity of clot and some purulent fluid escaped. Firm dressings were applied, but these quickly became soaked through and the continual oozing kept on in spite of packing and pressure and the free administration internally of styptics. The boy grew rapidly weaker, his digestive powers failed, and vomiting commenced and continued. Bleeding from the nose and gums took place. The pulse was about 140 and the temperature was subnormal. As it seemed to be useless to continue the ordinary treatment, and as, moreover, the stomach rejected everything, it was decided to try the effect of inhalation of oxygen. This was given in large doses and within twenty-four hours the vomiting and bleeding had ceased and the boy was able to take milk freely. The further progress does not need much comment. The inhalation of oxygen was continued for a week, during which time no medicine was given. Later the patient was put upon iron. The wound in the thigh healed without trouble. The boy made a complete recovery and is now well.

Remarks by Mr. BROWN.—In recording the above notes I desire to obtain the experience of others who may have tried the effects of oxygen in similar cases. I have had to treat several hæmophiliacs, but I have never seen one so near death recover. I am aware that by some it is held that hæmophiliacs bleed to a certain point and then stop. The family history in the present case does not support this view, for the patient's six brothers bled to death. I have always had the idea that hæmophilia and purpura were closely allied—i.e., that both conditions were due to a lack of oxygen in the blood and that hæmophilia was purpura in its worst form. Acting on this idea I determined in the above case to try the effect of giving large doses of oxygen to the apparently dying boy and I think the result is sufficiently good to warrant the further use of oxygen in like conditions. I am not prepared to discuss the physiological effect produced. I merely record clinical facts and on these facts I suggest that the remedy is worthy of use in cases where the ordinary means to arrest the bleeding have failed.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Discussion on the Value of Pressure in the Treatment of Wounds.

A MEETING of this society was held on Nov. 28th, the President, Mr. OWEN, being in the chair.

Mr. A. PEARCE GOULD opened a discussion on the Value of Pressure in the Treatment of Wounds. He remarked that the importance of securing asepsis had revolutionised surgical procedure and had shown the small part played by other measures in securing or in influencing the perfect repair of a wound. It was very easy for the surgeon to overvalue the part he played in the processes worked out in nature's human laboratory, when sometimes he was actually hindering them. Ambroise Paré was splendidly right when he insistently urged that it was the good God who healed wounds. There was a tendency to insist on details which were not of real importance and to drop unconsciously into a thoughtless routine. The maintenance of one position for days, for instance, so contrary to the wont of nature, was an exaggeration of a wise desire to secure rest and was greatly overdone. The unthinking routine prescription of alcohol for nearly every physiological and pathological state was another illustration of the tendency. In reconsidering his views with regard to the value of pressure Mr. Gould now held that it was largely ineffectual for the purposes for which it was employed, that it was sometimes mischievous, and that it could be well and safely dispensed with. Pressure was usually employed to secure apposition of the edges of the wound, to prevent oozing, to lessen serious exudation, to prevent bagging of fluid, to restrain muscular contraction, or to prevent the yielding of cicatrices. But for some time past he had abandoned the use of pressure for these purposes and the wounds had healed better and the comfort of the patients had been promoted. For pressure was not always harmless, and without due care might cause sloughing where there was a large flap, as after removal of the mamma. He had also been struck with its inutility in certain cases, as where the edges united but fluid collected beneath the flap. Pressure did not prevent its re-accumulation, but the insertion of a drainage-tube removed the difficulty at once. Similarly he referred to the inefficiency of pressure where there was bagging of pus, a condition for which counter-opening had to be resorted to. Where ill-effects were avoided he believed that the good results were independent of the employment of pressure, since he was able to obtain equally good results by means of a firm collodion dressing. Mr. Gould held that pressure need not be resorted to even after such operations as excision of the mamma. Again after laparotomy for removal of large ovarian cysts or for hysterectomy a simple collodion dressing over the wound was better than the mountains of cotton wool and firm bandage which were still largely used. What surgeons had been in the habit of attributing to their therapeutical measures had been the result of nature's kindly offices. The comfort of his patients had been greatly increased by his ceasing to apply pressure.

The PRESIDENT said that Mr. Pearce Gould's paper was novel and raised many important points. The disuse of pressure would certainly add to the comfort of patients, but he would like to be quite convinced that it would be safe to discard it. He had lately removed a large cystic kidney, afterwards applying firm pressure. Would Mr. Gould refrain from doing so in such a case as that, where there was a large actual cavity left and not a potential one? He would also like to hear from Mr. Gould whether he advocated the return to the use of the drainage-tube.

Mr. ALBAN DORAN said that four or five years ago he left off strapping the abdominal wall after ovariotomy and relied on slight pressure with a many-tailed bandage and later he scarcely used any pressure at all, but he had returned to the use of pressure as he believed that tolerably firm pressure favoured the expulsion of flatus and encouraged intestinal movement and so hindered the formation of adhesions. The bandage should be employed so as to compress the abdomen as high as the epigastrium or flatus was apt to be imprisoned in the transverse colon.

Mr. STANLEY BOYD said that he also had observed the failure of pressure to prevent the accumulation of fluid, and

in certain places, as in operations on the thyroid gland and for the removal of glands from the neck, efficient pressure could not be maintained. With regard to the abdomen he thought that pressure was employed to prevent the intestine from becoming flaccid and distended. Probably, however, it was not necessary for the purpose of preventing dilatation of the abdominal veins. He also employed collodion, sometimes applying it on a piece of gauze a foot square. To prevent bagging he also employed the buried suture which had proved so useful in perineorrhaphy. It could not be used in some positions, as, for instance, near the deep vessels of the neck.

Mr. MARMADUKE SHEILD said that he did not think that any one method of dealing with wounds was of universal application, and though he agreed with much of the paper he still thought that there were many conditions, such as removal of the mamma and inguinal colotomy, where moderate pressure was called for, in the latter instance to prevent extrusion of viscera if there should be severe vomiting. As supporting Mr. Gould's contention he mentioned that he had seen in the practice of the late Sir George Humphry amputation wounds treated by the open method without any dressing whatever and had been struck with the ease with which they healed.

Mr. F. C. WALLIS was also inclined to take a middle course. No doubt the pressure employed was often excessive and in some positions it could not possibly exert much effect. He agreed with Mr. Boyd as to the value of buried sutures in preventing bagging, as, for instance, after operation for the radical cure of hernia.

Mr. PEYTON BEALE said that one object of pressure was to keep the dressing in position, and it was best effected by an elastic webbing bandage. The evil effects of excessive pressure were well seen in cases of excision of joints. He had repeatedly observed that those which were firmly bandaged did not do so well as those which were left loosely confined.

Mr. PEARCE GOULD, in reply, said that he had not taken up the wide ground of the treatment of wounds but had confined his remarks to the effects of pressure. He had gone back to the use of the drainage-tube in many cases, which should be left in for twenty-four or forty-eight hours and should then be removed. He often employed buried sutures for subcutaneous tissues but not often for deeper structures. He did not agree with Mr. Doran's views that pressure favoured the passage of flatus, and the cases which he had left with only a collodion dressing had had no more trouble in this respect than those former cases in which he had applied firm pressure. Even in the case of inguinal colotomy to which Mr. Sheild had referred pressure could not prevent expulsion of the viscera, as in the act of vomiting the abdominal muscles contracted and there was a space left between the bandage and the abdominal wall. He thought it possible that in some cases pressure might favour serous accumulation, as it would only act effectively on the veins and would probably not arrest the arterial flow.

The PRESIDENT announced that in connexion with the recent report of a case of recovery from sarcoma after the injection of Coley's fluid[1] one of the microscopists to whom the specimen had been entrusted had some doubts as to its sarcomatous nature. The question was referred to a subcommittee for examination and report to the society.

CLINICAL SOCIETY OF LONDON.

Green-coloured Urine.—Operative Treatment of Gumma of the Liver.—Laparotomy for Gastric Ulcer.

A MEETING of this society was held on Nov. 25th, the President, Mr. LANGTON, being in the chair.

Dr. H. M. FLETCHER read a paper on the Occurrence of Green-coloured Urine in a girl, aged twelve years. The source of the pigment was not discovered. The urine was acid and contained a large quantity of indican. On filtration blue pigment granules were obtained. The urine on standing deposited greenish-blue uric acid crystals. At first it was thought that this was an instance of an extremely rare condition—indigo in an acid urine. Spectroscopic examination showed, however, that the pigment was not indigo but methylene blue. Another almost precisely similar case occurring about the same time was also quoted, in which the pigment likewise proved to be methylene blue. Experiments made with methylene blue taken by the mouth proved conclusively the nature of the pigment. It was pointed out that the spectrum and reactions of methylene blue located in the urine differed markedly from those of an aqueous solution of the same body, some compound being probably formed in the urine.—Dr. A. E. GARROD thought that although no history could be obtained to account for its presence there was no doubt that the colouring matter present was methylene blue. In the very rare instances in which he had met with green urine the colouration had been caused by the spontaneous separation of indigo, which might sometimes occur as a dark or even black deposit.

Mr. W. G. SPENCER described three cases of Gumma of the Liver in which relief followed operative measures. The cases suitable for such treatment were exceptional, being those in which there was a single gumma of the surface or edge and where the liver was still unaffected by cirrhosis. An exposure of the tumour allowed a definite diagnosis to be made and so a course of anti-syphilitic remedies could be instituted. The first case was that of an unmarried woman admitted under the care of Dr. Allchin to the Westminster Hospital, in whom there slowly developed a tumour, apparently connected with the kidney. On exposure a gumma of the free edge of the liver was discovered which had become united by adhesions to the abdominal wall and which was overlapped by intestines. The mass was fixed in the wound, the interior was scooped out, and the cavity was filled with gauze. Healing rapidly occurred under anti-syphilitic treatment. The second case was that of a widow, thirty-three years of age, admitted under the care of Dr. de Havilland Hall, who had become ill a year before with enlargement of the liver, slight jaundice, ascites, and wasting. She was repeatedly tapped, but the fluid re-accumulated so quickly that she became exhausted. Drainage was resorted to and at the operation a digital exploration was made, which showed that there was no malignant disease but some cirrhosis of the liver and a small gumma on the free edge. Iodide of potassium and mercury were therefore freely administered and the patient improved greatly and left the hospital convalescent. But a complete restoration to health seemed impossible on account of the cirrhosis. The third case was that of a middle-aged woman seen ten years ago with Dr. Ferris of Uxbridge. She had a large tumour growing from the liver, which was about to ulcerate through the skin. In view of the fact that it would practically be impossible for a patient with cancer of the liver to survive until the growth had fungated through the skin the mass was cut into and gummatous sloughs were scooped out. The woman, being thus freed from the effects of septic absorption and being treated with anti-syphilitic remedies, rapidly regained good health and had remained so ever since. Mr. Spencer also referred to the removal of pedunculated gummata.—Mr. CLEMENT LUCAS related the case of a girl, twenty-one years of age, who had a mesial tumour in the epigastrium obviously connected with the liver. As on exploration this had the appearance of a gumma the wound was closed and the patient was treated with iodide of potassium and entirely recovered. In another case, that of a woman, thirty-eight years of age, the patient had an enlargement of the abdomen for over two years. In April, 1898, a large nodular tumour connected with the liver could be felt extending down to the umbilicus. On exploration the whole surface of the liver was cicatricial. There was no definite history of syphilis, but she improved greatly under iodide of potassium.—The PRESIDENT related a similar case, also in a woman, to whom, instead of operating, he gave iodide of potassium on the chance of the enlargement being syphilitic and the tumour disappeared.

Mr. F. C. WALLIS read notes of two cases which he had operated on for the effects of Gastric Ulcer. The first case was that of a young woman, aged twenty years, who was admitted to the Metropolitan Hospital on March 11th, 1898, for a perforated gastric ulcer. The patient was operated on ten and a half hours after perforation. On opening the abdomen the contents of the stomach were found extravasated chiefly in the gastro-hepatic area. The rent was in the posterior wall, close to the cardiac end, and nearly 1 in. in length, and was sewn up by two rows of Lembert sutures and a piece of omentum was sewn over the line of suture. The abdomen was wiped out with sponges but no irrigation was employed and no drainage was used. The patient did well for eleven days and had no peritonitis. On the eleventh day she developed phlebitis. On the

[1] THE LANCET, Nov. 19th, 1898.

seventeenth day basal pneumonia occurred, which continued until the twenty-ninth day, when the temperature came down and she began to improve. But on the thirty-first day she vomited suddenly 6 oz. of blood and died within an hour. Permission for a necropsy was refused. Mr. Wallis remarked on the cause of death by hæmorrhage thirty-one days after the operation as being unusual and unfortunate. He suggested that it might be advisable in many cases to enlarge the opening sufficiently so that an examination of the interior of the stomach might be made and that a small electric lamp would be of great service in such cases. The fact that, although the peritoneum was only wiped clean and not irrigated, there was no peritonitis was in keeping with the now well-known resisting powers of the peritoneum. Mr. Wallis had been led to adopt this method on account of the frequent occurrence of subphrenic abscesses after irrigation. The second case was that of a young woman, a patient under the care of Dr. Fincastle Clarke, who was seen first in July, 1896. The history dated from December, 1882, when she had an attack of gastro-enteritis which recurred repeatedly until November, 1895, when on getting out of bed she was suddenly seized with the typical signs of a perforated gastric ulcer. From this she recovered but from that time until the operation she was unable on account of pain to take any exercise and was only able to take fluid food in small quantities at a time. On examining the patient she was seen to be extremely emaciated and weak and the abdomen was tender when manipulated, especially above and to the right of the umbilicus, where there was a distinct sense of resistance. Dr. Abercrombie and Dr. Clarke saw the patient with Mr. Wallis and it was agreed that an exploratory laparotomy should be done. At the operation a strong band ¼ in. broad and 1¼ in. long was found issuing from the pyloric end of the stomach to the abdominal wall. This was removed. The patient made a complete recovery after a long convalescence and was now able to enjoy life after fourteen years of invalidism. The pain had never returned and she had put on flesh and was able to take exercise, and as it was now two years since the operation there were fair grounds for believing that the benefits would be permanent.—Dr. FRANCIS HAWKINS (Reading) related the case of a young woman suffering from gastric ulcer with masked symptoms. Signs of perforation suddenly developed and she was operated on and recovered. He did not feel certain that laparotomy should be performed at once in all cases as he recalled two cases in which the evidence appeared to show that perforation had occurred but in which spontaneous recovery took place.—Dr. KINGSTON FOWLER also thought that rarely patients might recover without operation and mentioned the case of an ex-soldier who had long been suffering from symptoms of gastric ulcer and one day became collapsed with symptoms of perforation. The next day he had abdominal distension with disappearance of liver dulness. Operation was proposed but he refused to submit, and to Dr. Fowler's surprise he recovered, the liver dulness gradually returning to normal. Notwithstanding the fortunate result in this instance, however, he thought that in such grave cases operation should be advised.—Dr. SIDNEY PHILLIPS had had a series of cases of gastric ulcers under his care during the last few months. In two he believed that perforation occurred and both recovered without operation. In a third case laparotomy was successfully performed. In the first case there were the usual symptoms of perforation and disappearance of the liver dulness. The patient was fed by the rectum for some time and improved, but as soon as food was given by the mouth the symptoms recurred and the liver dulness again disappeared, but ultimately she got well. The ulcer was probably in the posterior wall. In another case, occurring in a girl eighteen years of age, the pain was so acute at first that he thought that it could not be due to perforation, especially as the liver dulness was normal. Two days later there was evidence of local peritonitis and the liver dulness disappeared. As the pulse was good and there was no acute vomiting he had not advised operation and she was now recovering.—Mr. W. G. SPENCER suggested that in some cases the disappearance of liver dulness was due to distension of the colon, and mentioned a case in which there was marked distension of the colon, which was found after death to have been due to a kink caused by an adhesion connected with a duodenal ulcer. He had recently met with another instance during an operation for pyloric obstruction. A fibrous band extended from the pylorus to the colon and caused the distension. Unless the disappearance of hepatic dulness was accompanied by a very rapid pulse he did not think it was of much importance. In cases of perforation the pulse-rate was rarely below 120.—Dr. LUCAS BENHAM related the case of a middle-aged stout woman who was taken suddenly ill with diarrhœa and intense abdominal pain. She improved for a time but soon relapsed, the stools containing mucus and pus. She ultimately died and at the necropsy it was found that an ulcer of the size of a shilling on the posterior wall of the stomach had ruptured.—Dr. TOOGOOD mentioned a case in which disappearance of the liver dulness was noticed without perforation occurring. The patient was a blacksmith who had been under treatment for gastric ulcer. After dinner one day he was seized with acute abdominal pain and vomiting and was admitted into the Lewisham Infirmary in a state of collapse. As the liver dulness had entirely disappeared Dr. Toogood cut down on the stomach, but finding that its contents had not escaped he stitched up the wound. At the necropsy he found a very small aneurysm of the arch of the aorta which had ruptured. The pulse-rate was between 130 and 140. He could not give any explanation of the disappearance of the liver dulness.—Mr. CHARTERS SYMONDS narrated the case of a woman, sixty years of age, who had suffered for twenty-five years from symptoms suggestive of gall-stones, but there were also symptoms of obstruction at the pylorus with dilatation of the stomach. On exploration he found a very large stomach with a thick mass in the posterior wall narrowing the stomach into two parts. As this was taken to be malignant he united the cardiac portion to the small intestine by direct suture. On the fifth day she died suddenly, and at the necropsy the stomach was found to be filled with blood coming from an old gastric ulcer, of which the thick mass was the heaped-up border. On the posterior wall of the stomach there was an opening 5 in. wide leading into a large cavity. In a second case, that of a man forty-six years of age, there had been attacks of abdominal pain attributed to gall-stones for thirty years. On exploration the gall-bladder was found to be healthy, but there were many adhesions in the neighbourhood. Later there were symptoms of gastric dilatation and adhesions were found all round the pylorus and duodenum. In dilating it he ruptured it right through to the peritoneum. He sewed up the rent and closed the wound. In a third case, that of a girl, there was a history pointing to perforation of a gastric ulcer. There was a mesial swelling, and an incision gave vent to much foul-smelling pus from a cavity which reached up to the diaphragm. A large, thickened stomach was exposed, which he accidentally ruptured for a length of 3 in. This he sewed up and the patient recovered. With regard to the desirability of operating in every case it must be borne in mind that the diagnosis was not always perfectly clear. In one case the operation was postponed for a day, and the pain and vomiting were found to be connected with the onset of an attack of acute pneumonia, and in one which was operated on the stomach was found to be perfectly healthy, the vomiting being apparently hysterical. He did not quite agree with Mr. Spencer's views as to the pulse-rate. It was not necessarily rapid in perforation: in his first case it was 60, and cases had been recorded in which it was only 30.—Mr. WALLIS, in reply, observed that while it might possibly not be advisable to operate in every case there was no doubt that many patients died for want of timely operation, and the risk of the operation was slight as compared with that of an untreated perforated ulcer.

HARVEIAN SOCIETY OF LONDON.

Functional Dysphagia.

A MEETING of this society was held on Nov. 17th, the President, Dr. J. F. GOODHART, being in the chair.

Dr. STCLAIR THOMSON read a paper on Functional Dysphagia which will be found in full at p. 1463 of our present issue.

Dr. C. S. JAFFE remarked that dysphagia of neurotic origin and not associated with other symptoms of hysteria was as common in men as in women.

Dr. DUNDAS GRANT complimented Dr. StClair Thomson and stated that in his cases of functional dysphagia paralysis of the œsophagus was relatively more frequent than it appeared to have been in Dr. Thomson's. He (Dr. Grant)

diagnosed it by the abnormal ease with which a very large indiarubber œsophageal tube could be passed. He referred also to cases of reflex spasm of the œsophagus simulating malignant disease and arising either from malignant disease in the abdominal organs or from defective dentition. In reference to electricity he had learnt from Dr. de Watteville how to bring about forced movements of swallowing by the continuous current, the positive pole being placed on the nape of the neck and the negative one being drawn gently down the side of the neck between the sterno-mastoid muscle and the trachea. Before introducing the bougie he made it a rule to assure himself that the cardiac apex beat was in its normal position. In the passage of a bougie in the middle line the cricoid cartilages sometimes acted as an obstruction, and in such cases the instrument could often be passed with ease if introduced to one side or other of the middle line. This was more readily done with a round than with a flat bougie, and he found in some cases a large bougie with a radish-shaped end preferable to a flat one.

Dr. CLIFFORD BEALE referred to three cases of functional dysphagia where the patients appeared to be almost unable to swallow in the presence of an onlooker but could take food without difficulty in solitude. The sensation of constriction of the gullet sometimes led to the suspicion and even to the diagnosis of cancer, but the passage of a large œsophageal bougie by demonstrating the absence of any stoppage not unfrequently caused the disappearance of the sensation. A very small inflammation of a follicle in the pharynx might produce a very considerable dysphagia, and he suggested the possibility that some cases of transient dysphagia might be due to a similar cause situated in the œsophagus itself.

The PRESIDENT alluded to the not uncommon inability of children to swallow solids. Sometimes this inability persisted up to the age of two or three years. In some cases it might be due to adenoids, but he believed that it was usually dependent on some functional neurosis. He mentioned a case in which dysphagia was caused by phlegmons of the œsophagus. He had met with an instance in which a man had been unable for many years to swallow except with great slowness and in small sips. Possibly congenital narrowing of the lower part of the œsophagus existed here, but he inclined to the view that the inability was functional. Functional dysphagia was occasionally mistaken for that caused by cancerous stricture, but the converse error had been known to occur. He regarded aneurysm as an extremely rare cause of dysphagia. He attached great value to auscultation as a means of diagnosing œsophageal stricture.

Dr. G. A. SUTHERLAND thought the passage of an œsophageal bougie was of value in some cases of functional dysphagia. He recalled one case in which a patient was unable to swallow owing to the presence, as he believed, of a pill in his throat. The passage of a bougie was immediately followed by the disappearance of the dysphagia. He agreed with Dr. StClair Thomson in the importance of making a thorough examination of the naso-pharynx and larynx both visually and digitally. In the case of a small foreign body such as a fish bone he had found by experience that after localising the part by the patient's sensations a careful examination of that region with a probe would probably reveal a point of extreme tenderness where the foreign body would be found.

After some remarks by Dr. H. J. MACEVOY,

Dr. STCLAIR THOMSON, in reply, said he was much gratified at the reception of his paper, for, as he mentioned in his introductory remarks, he had no new facts or ideas to submit. The paper had been the result of an effort in his own mind to get a clear conception of this affection. In doing this he feared he had talked all round the subject and had defined it chiefly by a process of exclusion. The debate had shown the protean features of hysteria. In his own experience the majority of patients had been females. A hollow bougie was doubtless much more comfortable for the patient and easier to pass, but the rigid tube for diagnostic purposes gave a good deal more information. If surrounded with every precaution doubtless the œsophageal bougie could be passed without danger, but there could be no doubt that dangerous accidents with it had happened in the hands of some of the most experienced and expert practitioners. The dysphagia associated with anæsthesia of the larynx, the pharyngismus associated with defective teeth, and the aphagia described by the President as occurring in infants and adenoid subjects, might, he thought, be classified under the heading of reflex dysphagia.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Grave Anæmia.—Effects of Frequent and Infrequent Feeding.

A MEETING of this society was held at the Royal Infirmary, Bradford, on Nov. 15th, the President, Dr. BERRY, being in the chair.

Dr. ROBSON gave a Microscopical Demonstration.

Dr. MAJOR showed a series of photographs of a Cretin under Treatment by Thyroid Extract.

Dr. CAMPBELL showed a Liver weighing 109 oz., a very marked instance of fatty and fibrous degeneration.

Dr. KERR showed (1) a specimen of Malignant Disease of the Larynx removed by Laryngectomy; and (2) a specimen from a case of Lateral Sinus Thrombosis.

Dr. GLADSTONE showed a patient and read notes on a case of Grave Anæmia which had been successfully treated with arsenic and general massage. The patient was a boy, thirteen years of age, a newspaper-seller, who had suffered much from privation and neglect. He was admitted to hospital on Oct. 6th, 1897, complaining of shortness of breath, cough, and abdominal pain. Examination of the chest showed that the heart's apex was displaced slightly outwards and there was a soft systolic murmur over the whole cardiac area. The lungs showed nothing abnormal. The urine contained a trace of albumin but no casts. The fundus oculi was normal. At the end of a fortnight the anæmia was extreme; hæmoglobin 30 per cent. Fourteen days later the patient was extremely weak and could hardly sit up in bed and his face was white and puffy. The blood was examined and was found to contain (Nov. 13th) 990,000 red discs per cubic millimetre and there were noticed numerous irregular-shaped discs. Neuro-retinitis was now discovered. During the preceding three weeks the patient had been taking iron with small doses of arsenic. This was now omitted and salol was given with a view to intestinal antiseptic treatment. After a slight improvement in the blood-count, he again became much worse and on Dec. 6th was apparently moribund. Blood discs, 624,000; hæmoglobin, 10 per cent. All food was returned. Rectal feeding was now begun. Ten minims of arsenical solution were given three times daily, together with general massage for twenty minutes daily. On Dec. 13th the patient was much better and was able to take food. Hæmoglobin, 20 per cent.; blood discs, 1,520,000. Retinal hæmorrhages were observed on Dec. 18th. On Dec. 22nd he had an attack of capillary bronchitis and he became very ill again. He steadily improved after. This complication had passed away and on March 5th, 1898, he was sent to a convalescent home. Hæmoglobin, 50 per cent.; blood discs, 3,090,000. By a mistake the patient walked all the way (about five miles) and was taken in much exhausted; he soon recovered however. When seen in June the boy had a good colour. Hæmoglobin, 80 per cent.; blood discs, 4,600,000, no irregular discs being seen. There was still a cloud of albumin in the urine. When shown to the medical society the patient was apparently quite well. The massage had been continued with some intermissions up to Feb. 21st, 1898, when it was no longer thought to be necessary. Dr. Gladstone remarked that after the massage the boy seemed to feel comfortable and to be refreshed. It appeared to induce sleep.

Dr. RABAGLIATI read a paper entitled "Some Effects of Frequent and Infrequent Feeding." He said that he had had a considerable amount of experience now in treating patients by recommending them to eat twice a day only in place of the three, four, five, or even six times frequently adopted. He believed that with a few exceptions, due to alcohol, syphilis, heredity, and the like, the main predisposing cause of nearly all the illnesses he had been in the habit of seeing for the last thirty years was too frequent and too abundant feeding. Death from starvation pure and simple no doubt could occur, and no doubt did occur, but he remembered only one case of it—in a neglected infant. He referred then to the exciting causes of disease, the ultimate difference between them and the predisposing causes consisting, he thought, in frequency, as distinguished from infrequency, of action. Next he referred to the proximate causes of disease which he would rather call "states" than "causes." There were two, and two only—shrinking and

swelling—and there was the intermediate state when swelling was passing into shrinking and shrinking into swelling. He criticised the terminology of Cœlius Aurelianus, contending that the terms used by him to signalise the proximate causes ought to have been not "strictura" and "solutio," but "strictura" and "dilatatio"; and that the state named "stricturæ et solutionis complexio" ought to have been 'stricturæ et dilatationis alternatio," since shrinking and swelling could not be combined in the same part at the same time but might alternate with one another and, in fact, must do so, since the succession of the one state on the other must occur owing to the very constitution of organisation—or at least always tended to occur. He then referred to the terminology introduced by Asclepiades of Bithynia, and proposed, instead of the acute and chronic diseases of that author which, he said, were not logical opposites, a classification into the œdemic diseases and the izamic, and said further that diseases were eilemmatous and parenchymatous and that the former might be endeilemmatous or exeilemmatous. For instance, pneumonia was a parenchymatous disease, bronchitis endeilemmatous, and pleuritis exeilemmatous. The confused views, as he considered them, of Sydenham were also considered and criticised, but he noted that Sydenham believed that gout was a disease due to "drinking and feasting." The view of Dr. King Chambers that 3 lb. avoirdupois was a reasonable daily average weight of food to be taken was unfavourably criticised, Dr. Rabagliati thinking that it was far too much and that Ranke's estimate of 100 grammes proteids, 100 grammes fats, and 250 grammes carbohydrates, in all about 1 lb. avoirdupois of mixed food, was far nearer the proper quantity. 3 lb., he thought, might, and in fact did, frequently produce starvation due to over-repletion. Cornaro lived to about 100 years of age on the daily consumption for about sixty years of ¾ lb. of mixed food. As examples of starvation due to over-repletion Dr. Rabagliati instanced callous ulcer of the leg, rheumatism, and cancer, saying that probably his views on this subject might collide with those of other members of the society. He then quoted cases and among the rest one of chronic vomiting in a man, aged forty-seven years, who had suffered for seven and a half years. His disease had, it was said, been variously diagnosed as cancer of the stomach, malignant growth of the stomach, chronic atonic dyspepsia, and chronic gastritis (the last being Dr. Rabagliati's own diagnosis). Various methods of treatment had been adopted without benefit. All kinds of gastric sedatives and tonics and frequent washing out of the stomach had been used, but without benefit. He had himself four years ago treated the patient but without more than transient relief. In these circumstances and considering the great length of time during which the case had persisted he recommended a long fast in order to see if stopping food altogether for a time would be followed by any relief. The suggestion was not at first favourably received by the patient, but after a time when, as he afterwards said, he thought himself dying at any rate, he expressed himself as willing to submit to it. The temperature under the tongue was 96° F. and at the commencement of the fast the weight was 130½ lb. In the first week the patient had only water, about a pint a day. For the eighth and ninth days he had besides water the whey from a pint of milk, the curds being separated by means of rennet. After the ninth day he had a daily allowance of whey from two pints of milk, no restriction being put on him as to water, which he took either hot or cold as he fancied. The patient never vomited or felt as if he would vomit since beginning treatment on Sept. 1st till the fast ended on Oct. 6th, neither had he vomited since. At the end of the fast the pulse was 65, soft, steady, and regular, and the temperature was 98·4°. He was up and about the whole time, helping his wife with light domestic duties. The weight of the patient at the end of the fast was 117¼ lb.; the loss of weight therefore was 13¼ lb., or an average of 6 oz. daily during the fast. Since the fast the patient had been eating ordinary food twice daily, taking a total weight of from 12 oz. to 16 oz. daily. If whey contains, as it is said to contain, about 7 per cent. of solids, then the patient would have had about 2 oz. of sustenance daily during the last four weeks of the fast, which would make the average daily loss of weight about 8 oz. had he lived entirely on his own material during the time. The paper concluded with some comments on the case and some observations on the kind of reasoning which led to the suggestion that a fast might be beneficial. In particular Dr. Rabagliati said that a patient might be in a low state of health and vitality because he had not sufficient food but that he might also be in that state because he was crushed by the load which he was carrying—as appeared to be the case in the instance detailed.—Dr. HIME criticised the paper and pointed out that Dr. Rabagliati had produced very little evidence in support of his statements. He regretted that no modern authorities on pathology had been cited.

The time at the disposal of the meeting having now expired the President declared the meeting at an end. It was decided by a vote of the members not to hold an adjourned discussion.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Specimens.

A PATHOLOGICAL meeting of this society was held on Nov. 18th, the President, Mr. EDWIN LEE, being in the chair.

Dr. ALLAN showed, among other specimens, a Foreign Body from the Peritoneal Cavity, a Syphilitic Tongue, and a Hypertrophied Tibia from a case of Chronic Ulcer of the Leg.

Dr. WARDROP GRIFFITH described and contrasted two specimens of Obstruction of the Inferior Vena Cava. In one the cause was aneurysm at the bifurcation of the aorta, with first pressure on, and then communication with, the cava. The superficial abdominal veins were greatly enlarged. In the second example, occurring in a man, aged fifty-five years, who died after an operation on the bladder, no symptoms were present during life. The obstruction was complete and just above the junction of the renal veins. In this instance the collateral circulation was carried on entirely without the assistance of the superficial veins of the abdomen, which was accounted for by the obstruction having occurred so early in development that the inferior cava had not fully taken on the duties of the cardinal veins which therefore remained as very large azygos veins.

Dr. EURICH showed: 1. Specimen and Microscopic Sections of a Tumour of the Kidney removed post mortem from a child, aged two years, and weighing 6¼ lb.; it was composed of small round-celled sarcomatous tissue, imbedded in which was embryonic gland-tissue. In its interior there was a hard nodule formed of embryonic striped muscle in different stages and a few well-defined clusters of cells, either epithelial or endothelial, probably the former. The growth was in parts angiomatous and contained many hæmorrhages. The tumour should be classed among the teratomata. 2. Sections from a "Perithelioma," a so-called "Psammoma," and a "Cylindroma" of the Brain. All three were really angio-sarcomata, the difference in their appearance being due to changes in their vessels, either in the direction of calcification or of hyaline degeneration. Both these changes may occur together. Calcification is preceded by an obliterative endarteritic process. 3. Specimen of Malignant Disease (? Sarcoma) affecting the Stomach, the Ascending and Transverse Colon and the Rectum, in a woman, aged twenty-nine years.

Dr. BRAITHWAITE showed a Cyst of the Great Omentum. This cyst occurred in a female child, four years of age. It occupied nearly the whole of the front of the abdomen. It was removed by operation in March of this year and was found to contain between 3 and 4 pints of clear, watery fluid. The cyst had walls about ¼ in. in thickness when it was empty of fluid and its internal surface was speckled with patches having an iridescent colour like mother-of-pearl. These spots were more prominent than the rest of the surface. By keeping in spirit for eight months this appearance had been nearly lost, but it was still to some degree visible. In addition to this larger cyst there were several much smaller ones, none, however, larger that a walnut. The patient recovered and is now in good health. Two years previously the child's body was noticed to be very much bruised, but from what cause could not be ascertained. This may possibly have had some effect in originating the tumour. In support of this theory it may be remarked that billiard players are said to be liable to tumours of the omentum, at any rate, a paper was published a few years ago to point this out.

Mr. WHITE showed microscopic specimens of Lardaceous Disease of the Kidney, Liver, and Spleen.

Mr. LITTLEWOOD showed a series of Twelve Kidneys

removed either by lumbar or abdominal nephrectomy. The specimens included 3 of neoplasms, 3 of tuberculous disease, 2 of calculus and one of septic pyelo-nephrosis.

Dr. BARRS showed a specimen of Typhoid Ulceration of the Large Intestine from the body of a young woman who died in the fifth week of the disease. The lesions showed the various stages from a mere swelling of the solitary glands up to a commencing separation of the slough. There had been no relapse and the patient had never been able to take solid food. A specimen of Typical Typhoidal Broncho-pneumonia was also shown from the same case.

Dr. CHURTON showed a specimen of Sarcoma of the Pancreas from a case in which there was glycosuria.

Mr. W. H. BROWN showed a piece of Gangrenous Intestine removed from a strangulated hernia.

Dr. NUNNELEY showed a specimen of Degeneration of an Eye resulting from a foreign body resting on the retina for thirty years.

Mr. SECKER WALKER showed an Eye affected with Secondary Glaucoma.

Dr. NUNNELEY and Mr. WALKER also each showed a specimen of Intra-ocular Sarcoma.

Dr. TREVELYAN showed Sections from Eczema of the Skin, death being due to other causes.

Mr. MOYNIHAN showed a series of Photographs and Lantern Slides illustrating the Anatomy of the Duodenal Fossæ and Duodenal Hernia.

An extensive series of Coloured Drawings was exhibited by Dr. BARRS and Dr. TREVELYAN.

The specimens, some 60 in number, added to the Leeds Medical School Museum during the last eight months were also shown.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Ligature of the Left Subclavian Artery.—Coxa Vara.

A MEETING of this section was held on Nov. 11th, Mr. R. L. SWAN, the President, being in the chair.

The proceedings commenced with the delivery of the President's Address.

Mr. R. BOLTON M'CAUSLAND read notes of a case of Stab Wounds of the Left Shoulder necessitating Ligature of the Left Subclavian Artery on the Twenty-seventh day for Secondary Hæmorrhages. A shoemaker, aged thirty-four years, was admitted to Steevens' Hospital on Feb. 16th, 1898, with four stabs about the shoulder, one of which entered the posterior fold of the axilla. He was very blanched, but the wounds were stitched up and dressed first on the fifth day. Slight bleedings occurred on the seventh, eighth, ninth, and tenth days necessitating plugging of the wound; these ceased till the eighteenth, nineteenth, and twenty-first days; then there was a profuse hæmorrhage on March 13th. Two days afterwards three courses seemed to present themselves: (1) amputation at the shoulder; (2) ligature of the subclavian artery; and (3) enlargement of the wound and search for the bleeding vessel. The latter procedure was first adopted, but profuse bleeding then came on; the wound was plugged with turpentine compresses and the subclavian artery was tied on the same side with silk. There was no bleeding from the date of operation; the subclavian wound healed at once under two dressings; the axillary wound was dressed on the second day and under a daily dressing granulated rapidly, healing on the thirty-eighth day. Wild, uncontrollable delirium came on in forty-eight hours after the operation and lasted nine hours; opium enemata and bromides seemed of use; it passed away as rapidly as it came on. The temperature remained normal from the second day, the man made a good recovery, and was out of bed on the twenty-fifth day. Morphine, arsenic, and quinine were used to combat pains in the shoulder, arm, forearm, and hand; massage was also of great benefit. At present the man is in good health and he has almost complete movement in the shoulder, but cannot hold his work in his left hand for more than two hours. The temperature in both hands is the same, though he complains of the left being colder. Radial pulsation appeared feebly on the thirty-fourth day after operation and has not increased. The wounds are all soundly healed.—The case was discussed by Mr. HENRY GRAY CROLY, Mr. T. MYLES, Mr. CHANCE, and Mr. LENTAIGNE.

Sir THORNLEY STOKER read a paper on Coxa Vara in which he referred to the history of the discovery of the complaint and to the fact that until 1889 it had been mistaken for morbus coxæ. The deformity was most commonly due to rickets. It was a condition of bending of the neck of the femur so that the head of the bone was depressed, and shortening of the limb was thus produced. The head was also bent backwards so as to render the neck convex in front and thus cause eversion of the thigh, which, combined with shortening, was the chief physical evidence of the disorder. He said that until 1896 he had been teaching that many mild cases of morbus coxæ occurred in which recovery took place with no defect beyond a little shortening; these were now known to be, for the most part, examples of coxa vara. The diagnosis of coxa vara from morbus coxæ was of importance, as the former condition was free from danger to life and must be treated on different lines.

SECTION OF PATHOLOGY.

Enchondroma of the Thigh.—Tubercle of the Eye.—Bicuspid Aortic Opening.—Aortic Stenosis.—Hypertrophy of the Heart.—Septico-Pyæmia.—Various Lesions of the Ulna.

A MEETING of this section was held on Nov. 4th, Dr. J. M. PURSER, the President, being in the chair.

Mr. JOHN LENTAIGNE read a communication on Diffuse Enchondroma of the Thigh.—Dr. E. J. MCWEENEY had made a microscopic examination which showed the characters of hyaline enchondroma extremely well. The central portion was composed of cancellous bone.

Mr. J. B. STORY showed Two Eyeballs removed for Tuberculosis, and Mr. O'SULLIVAN exhibited and described the microscopic appearances. One was a case of tuberculosis of the iris and ciliary body in a boy, aged seventeen years, presenting the ordinary characters. The other was a case of localised tuberculosis of the intra-ocular end of the optic nerve, simulating papillitis with detached retina. It occurred in a girl aged twenty-one years.—Dr. E. J. MCWEENEY said that no method of staining brought out the structural details so well as Von Gieson's. He thought that the reason why tubercles were not found in the retina oftener was, perhaps, because they were not sought for. As a rule the lesions of tuberculous eyes were more or less evident in front.

Dr. H. C. DRURY exhibited the Heart of a man, aged about fifty-five years, showing the rare anomaly of only two valves at the aortic opening. The condition of the heart during life was unknown as the patient was admitted into hospital in a dying state and only lived a few hours. There was atheromatous thickening of the aortic valves which rendered them incompetent; there was also atheroma of the aorta above them. The other valves of the heart were normal, the pulmonary opening having three normal healthy valves. Though there was atheroma of the aorta and its valve he considered that the bivalved condition was a congenital one and not acquired by the adhesion of two cusps and subsequent absorption or ulceration of their attachment to the aorta, because (1) the cusps were approximately equal in size and very large and (2) there was no evidence in either cusp of a line of union. Their position was, one to the right and slightly posterior, the other to the left and slightly anterior—the slit between their free edges being directed from before and a little to the right back and a little to the left. The one to the right appeared to represent the normal right posterior with half of the anterior cusp, the one to the left representing the normal left posterior with the other half of the anterior cusp. There was an opening of the coronary arteries behind each, that of the right coronary being situated behind the anterior part (corresponding to half of the anterior cusp) of the right cusp and that of the left coronary artery behind the posterior part of the left cusp.

Dr. J. B. COLEMAN exhibited five Hearts showing various lesions. In one, removed from a female, aged fifty years, the left ventricle was hypertrophied without dilatation; the aortic valve was stenosed to a mere sinuous chink; the anterior and left posterior segments were fused, thus producing a bicuspid aortic valve; the segments were sclerosed and nodulated, and so closely adapted to each other that a fine probe could be introduced between them with difficulty; there was no regurgitation. Pure aortic stenosis was rare, and it was generally considered the least serious of valvular lesions; but in this case it caused sudden death. The patient was not examined during life. In another specimen, removed from a man, aged fifty years, the heart was enormously enlarged, weighing 32 oz. (*cor bovinum*); both left

and right ventricles were hypertrophied and dilated and recent pericarditis was present, but all the valves were healthy.

Dr. MCWEENEY gave an account of a fatal case of Septico-Pyæmia associated with Acute Suppurative Arthritis in a boy, aged twelve years, after a slight blow on the right knee. The bacteriological examination revealed staphylococcus aureus in the fluid removed from the knee at the time of operation and also in the pericardial fluid, as well as in the foci in the lungs, myocardium, and kidneys. How it had obtained entrance was not clear. Dr. Mc Weeney also showed a preparation made from his own finger which had become infected at the necropsy without any wound, apparently along the shaft of a hair on the dorsal aspect of the second phalanx. In spite of active treatment a troublesome furuncle had resulted, the slough from which swarmed with the staphylococcus aureus. There was some lymphangitis, but he had fortunately escaped without glandular infection.

Dr. J. KNOTT exhibited 28 human ulnæ, showing united fractures in various positions, rachitic curves, arthritic deposits, and changes of various kinds.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—At a meeting on Thursday, Nov. 10th, the President, Dr. Alfred Robinson (Rotherham), being in the chair, Dr. Sorley showed a case of Lateral Sclerosis.—Mr. Lockwood gave particulars of a case of Foreign Body in the Cheek. The patient, a girl, aged twenty-nine years, was admitted into hospital with a suppurating sinus of the cheek. On examination under ether what was thought to be a piece of necrosed bone was found to be a piece of glass 2⅛ in. in length. It had perforated the malar bone and had passed through the antrum of Highmore along its orbital surface towards the posterior nares. The history was that twelve months previously the patient had fallen upon the fender and sustained a wound which had never healed.—Mr. Lockwood also showed a case of Myositis Ossificans Multiplex Progressiva and a Fœtus with Gastrochisis.—Mr. Herbert Hallam showed a case of Adeno-sarcoma commencing in the cervical glands seven years ago.—Mr. Connell showed (1) a patient who had been operated on for Purulent Peritonitis; (2) a specimen of Phagedæna of the Penis, and (3) microscopic slides of a case of Relapsing Appendicitis.—Dr. Burgess showed Two Children with Patent and Dilated Arterial Ducts.—Dr. Arthur Hall showed (1) a case of very large and numerous Gouty Tophi; (2) a case of Syphilitic Rosacea, and (3) a series of naked-eye and microscopical sections illustrating the Morbid Anatomy of Exophthalmic Goitre.—Mr. Godfrey Carter read a paper on the Etiology of Graves's Disease.—The discussion which followed was supported by the President, Mr. Archibald Cuff, Dr. Leonard Giles, Mr. Dale James, Mr. Garrard, Dr. Waddy, and Dr. G. Wilkinson.—At a meeting on Nov. 24th, the President being in the chair, Mr. Pye-Smith read a paper to introduce a discussion on Intestinal Obstruction with reference to Differential Diagnosis and Treatment. Commencing with a large and most markedly acute group when the bowel is strangulated by some internal band or other cause he insisted on the close similarity of such cases to cases of strangulated hernia and advocated equally prompt treatment by operation. The diagnosis and treatment of other acute and chronic groups were then discussed and the opinion was expressed that real differences in the symptoms are normally to be found between cases of intestinal obstruction owning widely different causes and that in spite of admitted difficulties the clinical problem may often be solved if there be a full, early, and correct history of the case, if a careful and thorough examination of the patients and an analysis of the symptoms be made, and if the probabilities suggested by age, sex, and statistics be allowed to have their full influence.—The President, Dr. Porter, Dr. Sinclair White, Dr. Gwynne, Dr. Kay, Mr. Archibald Cuff, Dr. Leonard Giles, Dr. G. Wilkinson, Dr. Burgess, and Mr. Keeling took part in the discussion.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—An ordinary meeting of this society was held at 20, Hanover-square, on Nov. 23rd, Dr. Radcliffe Crocker, the President, being in the chair.—The President showed (1) a little boy, five years old, suffering from Lichen Scrofulosorum Pilaris; (2) a female, aged twenty years, with Leucodermic Patches on the Neck; and (3) a case of Mixed Scleroderma in a male, aged nineteen years.—Dr. J. F. Payne showed a case of Acne Keloid (? sycosis frambæsiformis) in a man, aged about fifty years; the growth was on the scalp.—Dr. A. Eddowes showed a case of Persistent Erythema with Lichenoid Affection of the Limbs in a woman, aged about forty-five years. It was generally regarded as a case of atypical lichen planus.—Dr. Eddowes also showed a case of Typical Lichen Planus.—Mr. Campbell Williams read a paper on Congenital Syphilis: a New Theory.—Dr. A. J. Hall (Sheffield) read notes of a case of Eczema produced by Phenyl-hydrazin-hydrochlorate.—The papers and cases were discussed by the President, by Dr. J. F. Payne, Dr. Mouillot (Harrogate), Dr. A. Eddowes, Dr. Shaw-Mackenzie, Dr. Ogilvie, Dr. T. D. Savill, and Dr. A. J. Hall.

Reviews and Notices of Books.

A Text-book of Physiology. Edited by E. A. SCHÄFER, LL.D., F.R.S. Vol. I. Pp. xxiv. and 1036. Edinburgh and London: Young J. Pentland. 1898. Price 31*s.* 6*d.*

LESS than two years ago we reviewed in these columns an American Text-book of Physiology written by a number of the leading physiologists in the United States under the editorship of Dr. W. H. Howell. This was, we believe, the first text-book on the subject in the English language in which a number of physiologists collaborated. It has been speedily followed in this country by a similar treatise of even more monumental proportions. Not since the publication of Hermann's celebrated "Handbuch der Physiologie" has so comprehensive and important a work on the subject been attempted nor, we may add, crowned with such conspicuous success. Professor Schäfer has been fortunate in securing the services of many of the best-known physiologists in Great Britain as contributors to the text-book. This will be evident from a list of those writers who have combined to produce the present volume. Dr. Halliburton undertakes the opening chapters on the Chemical Constituents of the Body and of Food, and on the Chemistry of the different Tissues and Organs. The editor himself writes on the Blood and later on the Secretion of Milk, on Metabolism in general, and on Internal Secretions. Dr. Arthur Gamgee deals with Hæmoglobin and its immediate derivatives. Professor Waymouth Reid contributes chapters on the Processes of Diffusion, Osmosis, and Filtration, and on Secretion and Absorption by the Skin. Dr. Starling is responsible for the chapters on the Production and Absorption of Lymph and the Mechanism of the Secretion on Urine. Mr. B. Moore writes on the Chemistry of the Digestive Processes. Salivary Secretion is the subject of a monograph by Dr. Langley, while Dr. Edkins discusses the Mechanism of Secretion of the Gastric, Pancreatic, and Intestinal Juices and Dr. Noel Paton that of the Bile. The Chemistry of the Urine is the subject of Dr. F. Gowland Hopkins's contribution and the sections on the Chemistry of Respiration and on Animal Heat are by Dr. Pembrey.

It is not too much to say that each of these articles is a complete monograph, thorough, laborious, and lucid, written by a physiologist well known for his particular knowledge of his own subject. To attempt adequate criticism of them would need a special knowledge of each subject at least equal to that of their authors. There are few who possess such knowledge, but it is nevertheless possible to form a fair opinion of the value of the work by comparison with existing treatises and by persistent use as a work of reference whenever information is required on any special subject. The Text-book stands these tests not merely well, but in such a manner as to distance all competitors. It is not a book for the ordinary student—it is too comprehensive, too bewildering in its detail; some of the chapters are almost too encyclopædic. But to the physiologist, the pathologist, or the

physician in search of minute fact in support of any given opinion it will be found invaluable. Its main importance is, in fact, that of a comprehensive work of reference, sparing an enormous amount of trouble in the hunting up of original papers. It must remain for many years the standard work of reference on physiology in the English language, of value primarily to the physiologist but also to the worker in every branch of medical science.

Commercial Organic Analysis. By ALFRED H. ALLEN, F.I.C., F.C.S. Second edition, revised and enlarged. Volume IV. Proteids and Albuminous Principles. Proteoïds or Albuminoïds. London: J. & A. Churchill. 1898. Price 18*s*.

IN a review in THE LANCET of Oct. 3rd, 1896, of the third volume of this excellent book we remarked that when Mr. Allen's important work is finished he will have earned the gratitude of chemists, analysts, and others, for having added one of the most valuable books of reference on the subject with which it deals. The volume before us represents the end of the stupendous task which Mr. Allen undertook over fourteen years ago. It is the last volume of the second edition, the earlier volumes of which have been long out of print. We share in the author's regret that he finds it impossible to undertake the enormous labour of revising the earlier volumes, but a well-known authority on analytical practice has fortunately been found to continue this good work in the person of Dr. Henry Leffmann who has practically finished Volume I. and is now engaged upon Volume II. The time has come, therefore, when we can regard Mr. Allen's work as a whole, and we heartily congratulate him upon the result, and the chemical profession upon the possession of such a valuable and reliable source of reference on a very important and interesting branch of analysis. It is not difficult for the practising analyst to discover that the processes described throughout have in the majority of instances been tested in the laboratory by the author. Again and again he gives a review of the methods of analysis applied to a given substance and then relates his own experience as to the mode of procedure which he has found best and which introduces important modifications enabling the analyst to arrive more nearly at the truth. In proof of this the reader is constantly confronted with remarks in effect like the following (p. 294): "Numerous experiments made in the author's laboratory have shown the substantial accuracy of the process though various modifications were tried before this result was attained." The most interesting and valuable chapter in the present volume is, we venture to think, that dealing with Meat and Meat Products. Here we find all that is known up to the present time of the composition of meat preparations so far as analytical methods may be trusted. This portion of the subject obviously bears upon the comparative nutrient value of meat extracts, essences, &c., and a series of tables are included containing a great number of recent analyses in accordance with the results of improved methods, and the relative value of most of the commercial meat preparations on the market may thus to some extent be gauged. The subject, however, is still beset with difficulty owing to the want of physiological data as to the exact alimentary power of each constituent which analysis now identifies and separates. What, for instance, is the alimentary value of the gelatins, chondrin, gelatin-peptone, &c., and relatively of albumose and peptone? Until these questions are satisfactorily answered even the searching power of analysis to separate different constituents will avail little. In the same chapter is very properly contained a section on the Enzymes of the Gastric Juice with an excellent account of recent knowledge on the subject and a *résumé* of the methods of assaying pepsin. The method enjoined in the British Pharmacopœia of 1898 is described and in a footnote the author observes that "it is deplorable that those responsible for the production of the British Pharmacopœia should have adopted a process of pepsin-assay so unscientific in its principles and so defective in the details of its application." We are bound to admit the justice of this criticism. In the chapters dealing with the Analysis of Milk and Milk Products we again meet with evidence of the care which the author has taken to keep the history of all pertaining to the subject well up to the present time. We observe here for the first time in print a "Memorandum on the Analysis of Milk in the Government Laboratories." The author was favoured with an advance copy of this paper, which relates to the analysis of some milk by Dr. T. E. Thorpe, the principal of the Government laboratories. The process therein described seems complicated, and the simpler method first practised by Dr. Bell appears to give the same results according to Mr. Bannister, the late principal and deputy principal respectively at Somerset House. It is impossible that the analysis of sour milk can be as satisfactory as that of milk examined in the fresh state. On the question of food preservatives the author expresses no very pronounced opinion one way or the other, but refers to a footnote in which the opinions derived in response to our own inquiries upon the subject[1] from several medical authorites are conveniently epitomised. The volume concludes with 534 *addenda* which are short notes of reference to recent contributions bearing on the subjects treated in the body of the work. Amongst these references we observe a paragraph on the recent announcement of the alleged discovery of the synthesis of albumin. The author discredits the announcement as such but suggests that some fresh insight may have been gained into the composition and constitution of proteids.

"Allen's Commercial Organic Analysis" is undoubtedly a standard work upon the subject and the author must feel it no small reward for the great labour and deep thought which he has devoted to its preparation and completion that it is admitted to be the first work of its kind and one in which all those engaged in analytical work place confidence and trust.

The Sanitation of Domestic Buildings. By FRANK LATHAM, C.E. With Introduction by BALDWIN LATHAM, C.E. London: The Sanitary Publishing Company, Limited. 1898. Price 2*s*. 6*d*.

THIS little manual will be found most useful to all who desire an insight into the why and wherefore of the various pipes and appliances which ramify through, under, and about a modern dwelling. Having first dwelt upon the importance of efficient sanitary surroundings, Mr. Latham takes the sanitary work of the house in detail. Commencing with the drains he passes to the plumbing work and then considers the desirability or otherwise of the several internal fittings illustrated in the book. The work well exemplifies the best methods of the present day and the few trifling points upon which we may entertain any diversity of opinion are hardly worth discussion.

The author has endeavoured, so far as the subject will permit, to render it intelligible and useful to the uninitiated and with the aid of numerous illustrations has accomplished very much in this direction. Unfortunately for themselves and others the general reader and the householder are like Gallio who "cared for none of these things." We cannot deny a certain meed of sympathy to the general reader, for notwithstanding its vital importance the subject is both uninteresting and difficult and the general reader lacks the many years of industrious work and study which render the

[1] Vide THE LANCET, Jan. 2nd, 1897.

various details and technicalities so easy of comprehension to the expert. Mr. Latham need not despair, however, on this account, for there is much in his book of an educational character suitable to a large class of readers capable of assimilating its contents. These will find it full of information and particularly handy for reference.

The American Year-book of Medicine and Surgery for 1898. Edited by GEORGE M. GOULD, M.D. London: The Rebman Publishing Company. 1898. Pp. 1077. Price 38*s*.

THIS colossal work continues to maintain the high standard of usefulness which has hitherto distinguished it. Dr. Gould has the services of an editorial staff now numbering no less than 27 members, each of whom appears to be well qualified to deal with his own subject. Large as this staff is it cannot be considered excessive for the laborious task of abstracting a year's literature on medicine, surgery, and kindred subjects in every important modern language. The various articles are not merely abstracted, but in most cases a short criticism is appended representing the views of the member of the staff who deals with it, and this criticism is usually apt and to the point. A considerable number of figures and a few excellent coloured plates are introduced into the volume. The book is clearly and beautifully printed and no attempt has been made to diminish its bulk by the use of small type. Its size and weight are, indeed, by no means inconsiderable and con stitute the only drawback which we can discover. Its value as a work of reference in every department of medicine and surgery is very great and is rendered greater by the thorough index which brings the volume to a close.

A Treatise on Human Anatomy. By Various Authors. Edited by HENRY MORRIS, M.A., M.B. Lond. Second Edition, revised and enlarged. London: J. & A. Churchill. 1898. Price 36*s*.

THE first edition of this work was published in 1893 and was reviewed in our issue of July 8th of that year. This, the second edition, differs only slightly from the preceding one, the difference mainly consisting in certain additional matter, such as the chapter on the Skin by Mr. William Anderson and one on Vestigial and Abnormal Structures by Dr. Arthur Robinson. Another useful addition is the table which appears on page 819 of the present edition dealing with the relations of the lumbar and sacral nerves to the branches of the lumbar and sacral plexuses and the relations of the muscles of the lower extremity to the nerves of those plexuses. We notice that the illustration of the very intricate dissection of the right side of the neck which appeared on page 1128 of the first edition has disappeared from the second, an omission which we cannot but think a wise one. Altogether the second edition is in many ways an improvement upon its predecessor, excellent though that was.

LIBRARY TABLE.

Radiation, an Elementary Treatise on Electro-Magnetic Radiation and on Roentgen and Cathode Rays. By H. H. FRANCIS HYNDMAN, B.Sc. Lond. With a Preface by Professor SILVANUS P. THOMPSON, D.Sc., F.R.S. London: Swan Sonnenschein and Co., Ltd., New York. The Macmillan Company. 1898. Price 6*s*.—The author in the opening sentence of his preface lends a beautiful emphasis to the scientific importance of radiation, for "it is owing to radiation that there is any life upon this globe and that man as a sentient being is able to appreciate the beauties of the world in which he lives." No wonder, then, that the pursuit of the study of radiation is fascinating. And this well-written volume deals with the results of such study as far as they have appeared up to the present time. The subject has of course received enormous stimulation by the discovery of the x rays. Since that announcement other radiations ordinarily invisible to the eye have been discovered. The book is divided into three parts, Part I. dealing with material vibrations, Part II. with ethereal vibrations, and Part III. with other forms of radiation, as the x rays and so on. The book is obviously intended for the student who possesses a fair knowledge of physics. It is not popularly written and Professor Thompson says that it is much too good to be of use to one whose highest aim is to pass examinations. In a word, it is an excellent scientific dissertation, giving a clear, precise history of the development of the subject and of its trend in relation to the results of recent researches.

The Discharge of Electricity through Gases. By J. J. THOMPSON, D.Sc., F.R.S. Westminster: Archibald Constable and Co. 1898. Price 4*s*. 6*d*.—This little work had its origin in a course of four lectures on Discharge of Electricity through Gases which were delivered at the University of Princeton, New Jersey, by Professor Thompson in 1896. New matter has necessarily been added, since this field of study has recently attracted a large number of investigators. The chapters contain an account of a very interesting number of electrical phenomena connected with the discharge of electricity through gases, as in the production of photo-electric rays and of cathode rays. It is remarkable what an enormous subject has been opened up by the manifestations observed on the discharge of electricity through gas at different densities. The experiments first conducted by Sir William Crookes on radiant matter, when he dealt with the electric discharge through highly attenuated gases, must be regarded as largely the origin of so much fruitful work in the study of this branch of research. Professor J. J. Thompson is an ardent investigator in this field and an admitted exponent of the subject, so that the publication of his views will be welcomed by those pursuing this interesting line of inquiry.

From Messrs. Raphael Tuck and Sons we have received their usual Album of Christmas and New Year's Greeting Cards, together with several specimens of artistic productions of a more pretentious character. Among the cards those of the "Japanesque," the "Celluloid hand-painted," and the "Marble" series call for special mention. A design which will also doubtless attract much attention is that of "The Holy Child," depicting the Babe recumbent in His cradle, under a canopy, with adoring angels in the background, the whole being constructed to open out in elliptical form and presenting an excellent picture. In platino panels of various sizes there are several examples of really good work, and Turner's Masterpieces will appeal to many. The whole of Messrs. Tuck's productions are deservedly popular for excellence of design and for effective and at the same time artistic carrying out.

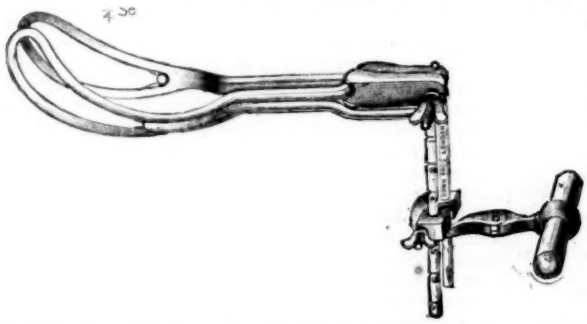
JOURNALS AND REVIEWS.

In the *Cornhill Magazine* for December the Rev. W. H. Fitchett continues his series of "Fights for the Flag." The fight in this paper, however, was not won on an ordinary battle-field where there is the lust of battle to excite the combatant, but in the horrors of the great hospital at Scutari, and the protagonist was no grim warrior but the gentle "lady with the lamp," known to all the world as Florence Nightingale. No words are needed from us to praise her and her devoted companions, but what the British army, nay, every army, owes to them may be seen by comparing military nursing before their advent with the nursing of our troops in the Soudan.

New Inventions.

AN IMPROVED FORM OF AXIS-TRACTION MIDWIFERY FORCEPS.

THESE forceps are the result of twelve months' experiments. They have been used in from fifty to sixty forceps deliveries in normal and abnormal pelves, the position of the head varying from "above the brim" to "on the perineum." They have given every satisfaction to those who have used them. They are made entirely of metal and can be sterilised by boiling. The traction rods are detachable and easily cleaned. The weight, especially where undesirable, has been diminished as much as is consistent with perfect



rigidity, the diminution being most marked in the application handles, the latter thereby acting the more efficiently as true indicators of the change in the direction of the descending head. There are no screws or fixed joints excepting in those parts outside the vulva, and such screws as are present are few in number and not easily lost. When the head is delivered it is only necessary (without touching the traction apparatus) to give a few turns to the large screw on the handles, when the blades slip off the head.

The blades have a pelvic curve of a 7 in. radius. This enables a good grasp to be obtained on the correct plane of the head. The cephalic curve, too, is more abrupt than usual. The blades are rigid, enabling the operator to judge to a nicety the force being used; they are also less likely to cut the head. They are stout, but narrower than ordinary blades, rendering them easy of introduction and manipulation and of special service in those difficult cases of flattened pelvis when the head lies transversely at the brim. By being narrow they grasp only the occipital and frontal bones, avoiding the parietals and so enabling the latter to mould without hindrance in the diameter of greatest obstruction. This has been verified by delivering a stillborn child through a dummy pelvis artificially flattened. The lock is a close-fitting ordinary English lock; a model has also been made with reversed lock. The close-fitting lock ensures the blades when locked being properly adapted to the head. The application handles have been much shortened and lightened; once the blades are applied the handles are merely "indicators" and not designed for traction. Owing to their lightness they do not fall towards the lower thigh and the slightest movement of the head is communicated to them. Being so delicate a guide, to ensure proper axis traction throughout the operator has merely to pull, keeping the traction rods constantly parallel to and close to the application handles as the latter move forward with descent. Another great advantage of the short handles is that on locking the forceps the second traction rod falls into position without having to be carried far forward to clear a long application handle. A theoretical objection that the short handle would upset the balance of the blade, and make it difficult of introduction with the head high up, has been found to be purely theoretical even above the brim, for in introduction the traction rod and handle are grasped together and will be found to give a comfortable and convenient hold, the left blade being passed with its traction rod behind the handle, the right blade with its rod just in front of the handle. On locking the second traction rod slips backwards into position beside the first traction rod. The traction rods are the well-known rectangular ones of Dr. Milne Murray (used by his kind permission). The forceps are thus true for all pelves instead of being true only for a normal pelvis. By an ingenious contrivance, copied from Dr. Cullingworth's forceps, the rods are easily detachable by an aseptic joint, the old objectionable screws being done away with.

Much time and care have been expended by Messrs. Down Bros. of 21, St. Thomas's-street, S.E., in designing a new form of traction block which should be mathematically and mechanically correct and yet have the advantage of simplicity, lightness, ease and rapidity of application, and admit of being easily cleansed. The great difficulty has been to avoid screws which might be lost and make the instrument temporarily useless. I venture to think that the present block fulfils the necessary conditions. To ensure asepsis it can be boiled. One movement fixes the block and rods securely. The line of traction has been calculated by "shadow projection," the ray of light being kept perpendicular to the blade. Very accurate results are obtained by these means.

In conclusion, I must thank Dr. Milne Murray for many valuable suggestions and Messrs. Down Bros. for their care and attention to the mechanical details, which are of the utmost practical importance in ensuring success.

G. PORTER MATHEW, M.D. Cantab.

A NEW PATTERN OF TOURNIQUET.

VARIOUS forms of tourniquet are in use at the present day. Petit's tourniquet is still sometimes employed, but it has been in great part replaced by Esmarch's rubber tube. The tube is very useful but has several disadvantages, due probably to the constricting force being applied over a very small area. A more effective method has been adopted in a tourniquet just sent to us by Messrs. Mayer and Meltzer of 71, Great Portland-street. The tourniquet consists of two parts—a flat indiarubber band and a steel fastener. The advantage of the band over the rubber tube lies in the fact that it apparently does not constrict the deep tissues to the same extent, and it does not cause any abrasion of the skin. The band in Messrs. Mayer and Meltzer's

instrument is 31 in. long, 1 in. wide, and $\frac{1}{16}$ in. thick. The fastener consists merely of a thin metal plate 2 in. square, having two parallel slots $1\frac{1}{4}$ in. long, cut into opposite edges. One end of the band having been stretched a little is passed into one of the slots and firmly held there by its own expansion, the free end is wound tightly twice round the limb and similarly fixed in the other slot. The whole instrument is very simple and cannot get out of order. It can be quickly applied and removed and does not allow any slip.

IMPROVED ORMSBY INHALER WITH ATTACHMENTS FOR THE ADMINISTRATION OF THE A.C.E. MIXTURE OR CHLOROFORM.

HAVING used Ormsby's inhaler almost entirely during the last ten years for the administration of ether I have become fully convinced of its many good points and also acquainted with its few defects. The principal defects are (1) the smallness of the air-valve; (2) the cage being composed of galvanised netting is compressible and so becomes more and more conical with use and hence obstructed, allowing less and less room for the sponge; and (3) it cannot be thoroughly cleansed with facility. With the object of overcoming these defects I have had the inhaler constructed as depicted in the woodcut and have been using it entirely for over twelve months with gratifying results. It is constructed throughout of metal nickel-plated, all parts are easily accessible, there is no place where saliva, mucus, or blood can lodge, and it can be rendered aseptic by boiling if necessary. The air-valve is a free one and is numbered with figures, as on Clover's inhaler, so that at a glance the relative patency of the valve can be seen. In passing, I may mention that it is my practice upon the addition of ether to the sponge to throw the valve wide open and then to gradually diminish the opening to three-quarters, one-half, one-quarter, and shut, thereby greatly reducing any chance of coughing or interfering with the rhythm of respiration when the fresh vapour is inhaled. In certain cases the valve can be kept at one-quarter throughout the administration with benefit. The cage being rigid and of very open work is incompressible, permits of free respiration, and cannot gradually become constricted with use. The respiratory bag is 12 in. in diameter, so that there is no need of netting to prevent its being blown off during expiration—the majority of bags sold with inhalers are much too small. The cage bearing the sponge and respiratory bag fixes on the facepiece with a bayonet catch, and is instantly detachable for cleansing purposes. An extra dome has been constructed of metal and freely perforated with air-holes, at its extremity, likewise fitting on to the facepiece with a bayonet catch and taking the place of the other dome. I have found this attachment very useful for the administration of the A.C.E. mixture or for ether when plenty of fresh air is necessary, as with young children and the very feeble. The administration can be begun with the A.C.E. mixture, and then the A.C.E. dome detached when required, the other dome applied in its place and the administration continued with ether; this method I have found very convenient. Should it be desirable to change the anæsthetic to chloroform, the tube from a Junker's inhaler can be applied to the projecting tube of the A.C.E. dome, and the chloroform apparatus is thus complete. Should the entry of air be too free then some of the holes at the extremity of the dome can be occluded with the hand—a good plan as the respirations can be felt—or these holes can be in part occluded by packing cottonwool in the dome beyond the retaining spikes intended for that purpose, care being taken not to plug the opening through which chloroform vapour is injected. With this inhaler, ether, the A.C.E. mixture, or chloroform can be administered either throughout or in succession, so that it is more or less of a universal type. In point of weight and initial expense it contrasts unfavourably with the Ormsby inhaler, but with the air-pad and bag occasionally renewed it is practically indestructible and will last a lifetime. I am indebted to Mr. J. H. Montague, of 101, New Bond-street, W., for the great pains he has taken in the construction of this inhaler.

The inhaler, the "extra dome," and the air-pad of the facepiece.

Wimpole-street, W. C. CARTER BRAINE, F.R.C.S. Eng.

Analytical Records FROM THE LANCET LABORATORY.

PURE MUTTON ESSENCE (HIPI BRAND).

(G. NELSON, DALE AND CO., LTD., 14, DOWGATE-HILL, E.C.)

ON examination this preparation proved to be a firm extract presenting the following proximate composition: moisture, 35·20 per cent.; organic matter, 56·38 per cent.; mineral matter, 8·42 per cent. According to our analysis the composition of the organic matters was as follows: total proteids, 38·22 per cent.; meat bases, 16·60 per cent.; fat, 1·56 per cent. The proteid matters insoluble in cold water amounted to 7·72 per cent., while the proteid matter thrown down on boiling and after the addition of a few drops of acetic acid was 1·21 per cent. It is well known that mutton is more digestible than beef on account of its fibre being smaller and more tender, but on the other hand the fat of mutton is harder and probably less digestible. Moreover, the proportion of fat in mutton is very often considerable. Practically all this fat, however, is separated during the preparation of the extract, the residue only amounting, as will be seen from our analysis, to 1·56 per cent. The composition of this extract, judging by the above analysis, establishes its nutrient value. Indeed, the ratio of nutritive substances to mere stimulating principles is very satisfactory. Further, the flavour is good. The preparation compares, from the dietetic point of view, very favourably with similar beef derivatives.

GUADRAC (SPANISH RED WINE).

(THE ALASCO WINE CO., 3, LINCOLN'S-INN-FIELDS, W.C.)

In spite of the low price (12*s.* per dozen) we believe this wine to be genuine. It was in sound condition, delicately fruity to the taste, free from excessive acidity, and containing only a minimum of sugar. Our analysis was as follows: total extractives, 2·35 per cent.; mineral matter, 0·23 per cent.; sugar, 0·67 per cent.; fixed acids calculated as tartaric acid, 0·49 per cent.; volatile acids calculated as acetic acid, 0·06 per cent.; alcohol, by weight 11·62 per cent., by volume 14·37 per cent., equal to proof spirit 25·18 per cent. The wine is pure, of a desirably light character, and therefore well suited for table purposes.

SULPHAQUA.

(THE SELTZOGENE PATENT CHARGES CO., ST. HELENS, LANCASHIRE.)

The packets for the production of "sulphaqua" are two in number, each consisting of a well-known salt the precise nature of which our analysis has determined. Both are soluble in water, and when the resulting solutions are mixed a double decomposition takes place, a yellowish opalescence forms which gradually intensifies into a very finely divided precipitate of sulphur, while at the same time a smell of sulphurous acid is evolved. For the purposes of a bath the mixture is thrown into from 10 to 20 gallons of warm water. This idea deserves the attention of all those interested in the application of sulphur in the treatment of affections of the skin or in

gout and rheumatism, since by this method the sulphur should be in a very active condition—a condition, if sulphur is valuable at all, which should insure therapeutic effect. Indeed, the nature of the reaction is such as to produce partly a colloidal form of sulphur which appears to be soluble in water. The same thing occurs when sulphuretted hydrogen is passed through a solution of sulphurous acid. Sulphur charges are prepared suitable for use in the bath or of a smaller size for use in the washhand-basin. The bath prepared in this way is distinctly pleasant, culminating in a healthy reaction. The idea, we think, is well worth applying as a new and probably valuable recourse in balneological practice.

EUGOL TOOTH POWDER.

(BAYARD, SONS, AND BAYARD, LIMITED, NEW YORK, AND 26, BRIDLE-LANE, GOLDEN-SQUARE, W.)

The statements advanced in favour of this preparation are true according to the composition which our analysis assigns to it. Thus it contains agreeable ingredients, rendering it antacid, antiseptic, and mildly astringent, the latter property making it useful for hardening the gums. It is a smooth powder free from grit having an agreeable smell of a well-known antiseptic volatile oil. The absorbent is calcium carbonate in a finely comminuted form. This dentifrice is pleasant to use, imparting an agreeable sense of cleanliness to the mouth.

SCOTCH WHISKY.

(F. BAGGER, 3-4, GT. WINCHESTER-STREET, E.C.)

Smooth to the taste, somewhat light in colour, and of satisfactory alcoholic strength are the main features of this spirit according to our examination and analysis. It has the character of a spirit which has been matured, it contains a very small percentage of extractives, and it is practically free from saccharine matters. The analysis was as follows: alcohol, by weight 39·30 per cent., by volume 46·59 per cent., equal to proof spirit 81·64 per cent.; extractives, 0·23 per cent.; mineral matter, 0·02 per cent.; acidity reckoned as acetic acid, 0·039 per cent. From the last factor it will be seen that the whisky is practically neutral. These results indicate the genuineness of the spirit, which is therefore well adapted for dietetic purposes.

RHENS NATURAL MINERAL WATER.

(RUSTON AND SINCLAIR, 3, CROSS-LANE, ST. MARY-AT-HILL, E.C.)

Our analysis of this interesting water drawn from a spring on the banks of the Rhine is not appreciably different from that already published. Thus the total saline constituents amounted to 3·48 grammes per litre. The alkalinity was equal to 1·33 grammes of carbonate of soda, the common salt was found to be 1·34 grammes per litre, while the sulphate of soda amounted to 0·81 gramme per litre. The last item is a feature distinguishing this water from some other natural waters. On this account it probably acts very mildly as an aperient. It is satisfactorily charged with carbonic acid gas, is pleasant to the taste, and contains a distinct trace of lithium. It possesses the characters of a water containing no added ingredients either saline or gaseous and it clearly belongs to the alkaline carbonate class of waters which are useful in promoting a sedative action.

(1) BELLADONNA PLASTERS; AND (2) ASEPTIC LIGATURES.

(SEABURY AND JOHNSON, NEW YORK, AND FASSETT AND JOHNSON, 31 AND 32, SNOW-HILL, E.C.)

We have received specimens of belladonna plasters from the above firm which are not only satisfactory on account of the excellence of the rubber basis but—of more importance still—are standardised in regard to the constituents of belladonna, the yield of alkaloids on analysis being just slightly over ½ per cent. An interesing inquiry was undertaken in this connexion not very long ago, when it was found that of several plasters examined some contained no alkaloid, one of these being labeled "Poison." The British Pharmacopœia now requires 0·5 per cent. of the alkaloids of belladonna root in the plaster. It is obviously important that the belladonna plaster should be a standard preparation and proceedings can be instituted under the Food and Drugs Act if the preparations contain no alkaloid or are defective in strength. Messrs. Seabury and Johnson claim to have always provided a plaster yielding on analysis ½ per cent. of the belladonna alkaloids. However that may be, the specimens submitted to us, which were said to be taken at random out of a stock, gave a full and satisfactory yield of alkaloids in accordance with pharmacopœial requirements. These plasters, therefore, may be relied upon. We have also received a few specimens of aseptic ligatures. They are enclosed in tight capsules. The closed capsule is sterilised together with the ligature it contains. This method secures an aseptic cord, but of course the capsule should be opened under as strictly aseptic conditions as possible.

(1) CREOSOTAL; (2) DUOTAL; AND (3) HEROIN.

(THE ELBERFELD FARBEN FABRIKEN CO., LTD. LONDON AGENCY: 19, ST. DUNSTAN'S-HILL, E.C.)

These three comparatively new and interesting preparations call for notice. The first two are fairly well known as having been administered in the treatment of tuberculosis, the basis of the compounds being respectively creosote and guaiacol. Creosotal may be regarded as carbonate of creosote, but in reality it is a mixture of the phenol carbonates of creosote. It is a clear yellow, oily liquid with a slightly bitter taste but without odour, this latter property of course distinguishing it from pure creosote, and it has been administered in doses of from half a drachm increasing to five drachms in wine, brandy, or cod-liver oil. Duotal, on the other hand, is a white crystalline powder without taste or smell and is insoluble in water. It is the carbonate of guaiacol. It splits up in the alimentary canal into guaiacol and carbonic acid and is said to produce an increase of appetite and a favourable effect on nutrition whilst reducing the pathological conditions characteristic of phthisis. Heroïn is a morphine derivative, the "di-acetic ester." It is a white crystalline powder soluble in spirit but insoluble in water. It is said to be a favourable substitute for morphine by not altering the blood-pressure and thus to be well borne by persons of a weak heart and feeble arterial system. Heroïn is also said to be free from other disagreeable secondary effects of morphine, so that it may be administered in respiratory diseases and in phthisis in comparatively large doses with no effect but that of a sedative upon the air passages. These statements are so promising as to render desirable a careful clinical trial of this new derivative in this country.

WHITE'S ANGOSTURA BITTERS.

(MR. M. BETHENCOURT, CURAÇAO, WEST INDIES. EUROPEAN AGENT: MR. R. L. LEYBA, 16, GLOCKENGIESSER WALL, HAMBURG.)

On analysis this proved to be a very powerful spirituous extract of angostura bark (cusparie cortex). It is perfectly miscible with water, the solution developing a peculiarly pleasant aromatic smell. Angostura bark appears to contain two alkaloids—cusparine and galipine—which are possibly the active ingredients which make the bark of value in intermittent fever, dysentery, &c. The bitter principles are of the nature of a glucoside, since on boiling the above preparation with sulphuric acid a sugar-like substance was produced which reduced Fehling's solution. The preparation before us possesses a fine aromatic and bitter flavour and in proper quantity is well known to serve as an excellent and wholesome stomachic and tonic.

THE LANCET.

LONDON: SATURDAY, DECEMBER 3, 1898.

OUR anticipation that the meeting of the General Medical Council would be a prolonged one has been fulfilled. The Council sat for nine days, and, even so, had to leave many items on the programme for consideration at the May meeting of next year. The penal cases occupied a large part of four days, and the lessons of them and of the way in which the Council dealt with them may perhaps engage our attention on a future occasion. Meantime it is not uninteresting to notice the discussion on the subject of the Penal Cases Committee. It is evident that the disciplinary function of the General Medical Council figures as largely in the eye of the medical profession as its educational work. It is not only that the qualifying bodies show a constantly increasing disposition to impose on the Council the burden of investigating and punishing medical misconduct, but that the general body of the profession, and even the public itself, look to the Council for the correction and punishment of such misconduct. If the qualifying bodies, and especially the universities, give their sanction to the proposals which the Council is making to the Government—to the effect that practitioners whose names have been taken off the Register, either after conviction in a court of law or for "infamous conduct in a professional respect," should be deprived of their degrees or diplomas for so long as their names are off the Register—they will do much to increase the importance of this function of the Council. Accordingly, it is not to be wondered at that everything concerning the Penal Cases Committee, the body which assists the President in considering cases which seem to call for the discipline of the Council, should be narrowly criticised. Its constitution, the mode and time of its election, and the number of its members have all been from time to time—and notably at the recent meeting and at the instance of Mr. HORSLEY—subjects of discussion. Mr. BROWN made a bold attempt to abolish the committee altogether and to refer all penal cases to the consideration of the Branch Council of the division of the kingdom in which they occur, with a view to their presentation to the General Medical Council. His main argument was that the Penal Cases Committee had not in all cases done its work well, and that such work would be better done by the Branch Councils. Other members in support of this view argued that the Penal Cases Committee was too small and too strictly limited to London members, and that the Branch Council of England was too little *en évidence* considering its great responsibilities and its great wealth. But only 6 votes were given for Mr. BROWN'S proposal. The cost of meetings of the Branch Council was one thing which weighed against the success of the motion. The recent case of EASTBURN, in Scotland, which to medical minds seems a most easy one, shows that a case may be prepared and put forward by a Branch Council and yet fail to carry the judgment of the court of law. One change, however, has been made in regard to this important committee which has the duty of preparing cases of alleged professional misconduct for the consideration of the Council. The Council has determined that it shall be subject to election annually, like all the other committees of the Council. It will be elected in May by ballot, as the Executive Committee of the Council is elected. Hitherto it alone of all the committees has had a continuous existence and it was argued that there were special reasons for such continuity. But this point may safely be left to the judgment of the Council, which shows no harsh disposition to depose its members from any committee unless they have failed to do their duty. The suggestions of the minor changes in the Standing Order of the Council with reference to the functions and election of the Penal Cases Committee are mainly to be credited to the initiation of Mr. HORSLEY.

The chief occupation of the Council on the days when it was not engaged in the consideration of penal cases was the discussion of the report of the Education Committee on the important subject of the examinations in preliminary education recognised by the Council. Some educational experts in and out of the profession, who will entirely approve of the action of the Council in removing from its list the examinations for a second-class certificate (of first or second division) of the College of Preceptors, will regret that it did not go further. But it was scarcely free to do so, even if it had felt justified. The Council by its own resolution at a previous meeting had committed itself to remove all examinations which were of a lower standard than that of the junior local examinations of Oxford and Cambridge, thus constituting these a test standard of efficiency. The able and elaborate inquiries of the Education Committee, the credit of which, according to its chairman, is largely due to Dr. DONALD MACALISTER, left no doubt that this particular examination of the College of Preceptors is inferior to the junior local examinations. At least, the consensus of head-masters on this point is almost complete, and the great majority of deficiencies in general education reported in the examinations for navy and army medical appointments are traced to this examination. It may be taken for granted, therefore, that in the step it has taken the Council will have the decided approval of all who believe that the best foundation for a good professional education is a sound general one. Many members of the Council and many more outside think, as we have said, that the Council should have proceeded to remove all the junior examinations from their list. Theoretically the whole Council seemed to approve of such a step. But the cautious members succeeded in postponing the taking of it for a time. Rightly or wrongly, the impression prevailed that it could not be taken with due consideration for teachers or the parents of students, and that, further, it was impracticable with reference to the supply of the profession. One speaker after another agreed that the schools would be depleted and that the public and the public services might be seriously starved,

especially in the event of a great war, for the want of medical students and practitioners. We confess to few fears on this subject and to thinking that the profession is already so full that it could experience nothing but advantage and improvement from a much sharper rise in the standard of preliminary education than the Council has effected by its cautious action on Tuesday. But it is satisfactory to know that it has virtually committed itself to a further raising of the standard by calling on its Education Committee to say in May next when such a step may be safely taken. We trust that the Education Committee will display as much energy and efficiency in answering this question as in establishing the relative superiority of the university local examinations.

The only other important action of the Council which we need notice here is the adoption of the report of its Committee on the Midwives Bill. The discussion turned merely on details and especially on the importance of provisions for securing that the Council shall be indemnified for the cost of discharging any duties which may be imposed on it under any such Bill. There was no attempt in any quarter to revert to the general principles of such measures. On these the Council has practically said its last word. It proceeded, however, very wisely to reappoint its last committee with the addition of Mr. HORSLEY'S name to watch any actual measure which may be brought forward in the coming session.

ALL who were present at the recent meeting of the Fellows and Members of the Royal College of Surgeons of England must have been struck by the unusual air of urbanity which seemed to pervade the theatre, and, indeed, it was referred to by several of the speakers. It is a happy augury for the future, and we can only hope that those who take part in the meetings at the College will recognise that in College politics there is room for two reasonable opinions. The meeting was opened as usual by a short address by the President in which he referred to the chief events in the past Collegiate year. He showed that the Council had taken an important part in obtaining from the Government the reforms in the Army Medical Service resulting in the establishment of the Royal Army Medical Corps. Further, he pointed out that when an attempt was made last year by the authorities in Italy to require that the British medical men practising in Italy should be compelled, not only to take an Italian degree, but to go through the whole curriculum from the very beginning as if they were completely unqualified, the representations made by the Council to the Secretary for Foreign Affairs had the effect of eliciting from the Italian Government a statement that no change in the law was intended. The President also referred to the action taken by the Council with regard to the Midwives Bill, which they opposed, as it did not offer an adequate solution of the question of the registration of midwives. He also mentioned the great amount of work which was done in the Laboratories of the Conjoint Board on the Victoria-embankment, under Dr. SIMS WOODHEAD, especially alluding to the preparation of diphtheria antitoxic serum. This latter had, he said, been possible chiefly through the munificence of the Goldsmiths' Company's grant, and he expressed a hope that that company would see its way to make a further grant for the same purpose. In various other ways the President showed that the Council had been far from idle during the past year.

He had also to ask for the sympathy of the meeting. The claim of the College for exemption from corporation duty had practically failed and after careful consideration the Council had decided to appeal against this decision. Thus far nothing which had been said could have been objected to by any Member present, but one or two of the resolutions brought forward later displayed a little antagonism to the Council, yet neither the words of the resolutions nor the speeches of those who supported them showed anything of the bitter opposition which formerly characterised these annual meetings. The first resolution, introduced by Mr. GEORGE BROWN, congratulated the members of the Council on the success which had attended their efforts in the reform of the Army Medical Service, and invited them to turn their attention to the abuses existing in connexion with civil medical practice. Abuses there are without doubt, but it is not always clear how they may be remedied. The suggestion made by Dr. DANFORD THOMAS, who seconded the resolution, that an attempt should be made to obtain a new Medical Act was one of great value. As he pointed out, the present Act was inadequate and uncertain and was constantly being interpreted by magistrates and judges in different ways. Dr. DANFORD THOMAS said that the support of the Council was necessary and would of itself render almost certain the success of the measure. We regard this suggestion as well worthy of attention, though we are not so sanguine as Dr. DANFORD THOMAS as to the immediate result. It would, however, be a great step forward if this Council would coöperate heartily with the rank and file of the College in an endeavour to remedy present abuses.

When the Council some time ago claimed in rather enigmatic phrases to represent all the Members as well as all the Fellows it was obvious that such a claim would on many occasions be disputed, and therefore no surprise was felt on seeing it called in question in the second resolution. We have written so recently in favour of the reasonableness of the extension of the franchise to the Members that it is unnecessary here to say more than that the arguments brought forward by Mr. HUTCHINSON two years ago were quoted extensively by the mover of the resolution. Many Members supported it, and a Fellow—Mr. BELL of Rochester—suggested that if the Council were to obtain powers enabling them to coöpt Members to seats on the Council they would find them as good business men as the Fellows, and then there would be little opposition on the part of the Council to giving votes to Members. No dissentient vote was recorded when the motion was put to the meeting, and we hope that before long this ordinary act of justice will be performed. Mr. W. G. DICKINSON'S motion asked the Council to express its disapproval of Fellows or Members of the College acting as the paid officials of any association which advertises or touts for patients. He stated that the Royal College of Surgeons in Ireland had prevented its Members from holding such posts and he asked why the English College could not act in the same manner.

Mr. STOCKER mentioned that he had brought before the Council a flagrant instance of advertising by a Member of the College and yet the Council had taken no notice; but Sir WILLIAM MAC CORMAC rose and stated that he was sure that Mr. STOCKER would learn with pleasure that the name of the Member in question had been removed from the roll of the College. This was a distinct score for the Council, and this opportune announcement was received with much applause by the meeting. The President, continuing, said that the Council had on many occasions considered with much care the difficult question of these advertising associations, but their powers were very limited and they could not go beyond them.

Many Fellows have accepted with pleasure the permission accorded to them by the Council to wear an academical gown, and it is only natural that Members should wish to have a like privilege accorded to them. The seconder of a motion to this effect attempted to give reasons why Members should be allowed to wear a gown, and so far as we could gather from his remarks he thought that it would look better in an operation if the operator and his assistants were clothed in flowing white garments with a purple hem instead of in the mackintosh aprons which are usually worn. He explained, to the great amusement of the meeting, that a higher character would be given to the operation under these circumstances and that the sight of the surgeon and his assistants would have a soothing effect on the patient if he were to become conscious before the conclusion of the operation. Although one Member opposed it, the resolution was carried. Two other motions were on the agenda paper in the name of Mr. R. B. ANDERSON, but as he did not attend they fell to the ground We are sure that Mr. ANDERSON'S intentions in putting down these motions on the paper were good, but we fear that their involved verbiage would have done much to imperil them if they had come to a vote and we advise him to use shorter sentences and simpler phrases if he would be "understanded of the people."

Altogether we consider the meeting the most satisfactory of any held at the College within recent years.

THE subject of tuberculosis, with respect both to its causes and its prevention, is one which now happily attracts an increasing degree of interest not only in our own profession but among the public generally. It is greatly to be desired that this interest shall not be allowed to flag, for in spite of the great reduction which has recently been observed in the ravages of tuberculosis, this malady, in one or other of its forms, still continues to inflict upon the community an appalling amount of sickness and suffering which frequently ends in untimely death and very much of which is now definitely known to be avoidable. Since the year 1894 two Royal Commissions have reported upon different aspects of this subject; and quite recently a large and representative association,[1] headed by the President of the Royal College of Physicians of London and the President of the Royal College of Surgeons of England, has been founded in London, with coöperating branches in the provinces, having for its object the study of tuberculosis in man as well as in the animals which provide him with food. This association, which fully deserves its assumed title of "National," is seeking to discover some practicable means of still further diminishing, if not altogether exterminating from amongst us, the terrible scourge of tuberculosis.

Under these circumstances we recognise a singular appropriateness in Sir RICHARD THORNE'S selection of the present time for the delivery of his Harben Lectures on the Administrative Control of Tuberculosis. Having studied them carefully since their completion we have formed the opinion not only that these lectures are admirably adapted to the important occasion which called them forth but that they are in every respect worthy of Sir RICHARD THORNE himself.

The Harben Lectures of 1898, three in number, full abstracts of which have appeared in recent issues of THE LANCET, possess exceptional value for those who desire reliable information on this question, inasmuch as they furnish an authoritative statement from one whose position as medical adviser to the Government gives him the best title to be heard, not only as to the amount of mischief which actually accrues from the ravages of tuberculosis but also as to the degree of success which may reasonably be looked for as the result of such preventive action as is now practicable or of such measures as are likely to be sanctioned by Parliament for the control of tuberculous disease not only among mankind but among the lower animals likewise.

Up to a comparatively recent period our national records concerning mortality from tuberculosis appear to have been obscure, but the statistical investigations which Dr. TATHAM conducted in 1896 for the guidance of the last Royal Commission on Tuberculosis provide as trustworthy a summary of such information on this subject as can legitimately be deduced from the records in the General Register Office. Concerning the early history of tuberculous disease in this country the data obtainable from the death registers are less precise than we could wish. Previously to 1837, in which year the first Registration Act was passed, no official records of a reliable character were available, and for several years subsequently the existing records are too indefinite for comparison with those of more recent times. In those early days not only was attestation of the cause of the deaths of their patients entirely optional on the part of medical practitioners, but the names by which many of the diseases were at that time known now appear to us vague and ambiguous. Added to which, in consequence of the imperfect state of medical knowledge, it is certain that diseases were less accurately diagnosed in the "thirties" and "forties" than they are at the present time. For these reasons amongst others Sir RICHARD THORNE adopts Dr. TATHAM'S limitation—namely, the year 1851—as the earliest period the records of which concerning tuberculous mortality ought to be employed for purposes of comparison.

The period of forty-five years ending with 1895 has been marked by a reduction of almost 40 per cent. in the aggregate mortality of tuberculous diseases. The reduction has been remarkably steady and continuous throughout that period,

[1] The National Association for the Prevention of Consumption and other forms of Tuberculosis. Offices: 20, Hanover-square, West.

and has affected all the age-periods of both sexes into which the span of life is divided in the official tables; and what is especially encouraging is the fact that the chief part of the life-saving represented by this fall in the death-rate has been experienced at those age-periods when human life is economically the most valuable—namely, during adolescence and early maturity. In the mortality due to pulmonary phthisis, the most important member of this group, there has been since the decade ending with 1860 even greater reduction than in that resulting from tuberculous diseases generally; a fall has taken place in the death-rate at every stage of life, and in the several age groups comprised within the interval between the fifteenth and forty-fifth years the fall since that decade has ranged from 32 to not less than 58 per cent.

Among children of very tender years pulmonary phthisis is seldom fatal nowadays and among infants under five years old such mortality as still occurs averages only one-third of what it was forty-five years ago. But there is one member of the tuberculous group, tabes mesenterica, to which children are especially liable, and the mortality from this malady instead of falling has actually increased since 1860 by nearly 28 per cent. The question naturally suggests itself, why this particular form of tuberculous disease should still continue to increase very seriously amongst children whilst pulmonary phthisis, which is another form of the same group and is caused by the same parasite, is as steadily decreasing. Sir RICHARD THORNE is prepared with an explanation, which appears to us a reasonable one, of this apparent anomaly. He shows that whereas pulmonary phthisis is perhaps ordinarily caused by the inhalation into the lungs or air-passages of the dried and pulverised sputa of persons already suffering from that disease tabes mesenterica is mainly caused by the ingestion of food, especially of uncooked milk from diseased cows, which contains the tubercle bacillus in an actively infective state, the latter finding its way into the glands of the mesentery by way of the digestive tract. This theory at any rate explains the differing behaviour of the two principal forms of tuberculosis. For if phthisis is diffused through the community by the inhalation of dried tuberculous sputa, then it follows that the systematic removal of this with other kinds of filth from the dwellings of the poor, which has been in active progress under sanitary auspices in recent years, will tend to diminish *pro tanto* the number of fresh infections and therefore the resulting mortality. In the case of tabes mesenterica, however, no similar reduction has been effected in the opportunities for fresh infection. On the contrary, inasmuch as cow's milk is now consumed by the children of the poor in much greater quantities than ever before, and as we know that milk is seldom if ever boiled before use, this fact alone would explain the increase of tabes mesenterica—assuming, of course, the correctness of the theory in question.

With regard to preventive measures for the control of the various forms of tuberculosis, Sir RICHARD THORNE gives little encouragement to those who seek assistance from Parliament. In particular he condemns the proposal now sometimes made by even responsible sanitarians that powers should be sought to include phthisis among the dangerous infectious diseases which are compulsorily notifiable to sanitary authorities. He confidently expresses the opinion that compulsory notification of phthisis is impracticable and undesirable in the best interests of public health, and that it would cause infinitely more mischief than it could possibly avert or cure. In this opinion we cordially concur, and we trust that, acting on the advice of their able medical adviser, the Local Government Board will steadily refuse their consent to any proposal of the kind under any circumstances whatever. Sir RICHARD THORNE'S lectures, which we hope to see published in a form befitting their importance, contain thoughtful and sound advice for the preventive treatment of tuberculosis. We would therefore refer our readers to the original lectures for fuller information on a topic which is of supreme national concern.

Annotations.

"Ne quid nimis."

DIPHTHERIA AND ELEMENTARY SCHOOLS.

AT a meeting of the London County Council held on Tuesday last, Nov. 29th, a report of the Public Health Committee was presented to the Council dealing with the large prevalence of diphtheria in London and the connexion of this prevalence with the relatively increased mortality among children at the school age from diphtheria and concluding with a recommendation that the special attention of the Local Government Board and the Education Department should be called to the existing condition of things. Mr. Shirley Murphy's report to the Public Health Committee, on which this recommendation was based, now lies before us. It deals with the many sides of the question exhaustively and, to our mind, demonstrates that the school influence plays an enormously important part in the recent increase of diphtheria in London as well as counting for something in the mortality from whooping-cough and measles. This is a highly important matter to the community and particularly to the medical guardians of the public health and we shall take early occasion to refer to some of the many points of the first medical and statistical interest which are raised by Mr. Shirley Murphy's account of his investigations. One thing may be pointed out now. The medical officer of the London School Board has committed himself to the opinion that the figures relating to diphtheria incidence in other towns do not lend support to views founded upon London statistics. Mr. Shirley Murphy now shows that the same influence may be seen to be at work in a number of other towns in this country and in Berlin, and that London in no way stands alone. After an interesting debate, in which we are glad to note that the councillors taking part all deprecated any idea of acting in antagonism to the London School Board, the recommendation of the Public Health Committee was endorsed by the Council who resolved "that copies of the report of the Council medical officer of health on diphtheria should be sent to the Local Government Board, the Education Department, and the School Board for London, and that the School Board should be invited to appoint some of its members to confer with the Public Health Committee of the Council on the subject matter of the report." As readers of THE LANCET know, the connexion of the increased prevalence of diphtheria with compulsory attendance at school has received for some time the serious consideration of the London County Council,

We thoroughly agree in the view which is now expressed by the recommendation of the Public Health Committee in unmistakeable language that the matter is one which urgently calls for the attention of the two government departments concerned—viz., the Local Government Board and the Education Department.

THE PRINCE OF WALES'S HOSPITAL FUND.

IN accordance with the plan set forth by H.R.H. the Prince of Wales, President of the Prince of Wales's Hospital Fund for London, last summer, a committee of gentlemen have visited and inspected carefully the various hospitals which applied, in answer to the advertisement, for a share in this Fund. The committee consisted of the following gentlemen:—Viscount Duncannon, Sir Trevor Lawrence, Bart., Sir Savile Crossley, Bart., Sir Henry Burdett, K.C.B., Mr. Charles Burt, Mr. J. G. Craggs, F.C.A., Dr. W. S. Church, Mr. John Croft, F.R.C.S. Eng., Mr. Frederick M. Fry, Mr. A. D. Fripp, F.R.C.S. Eng., Mr. J. Pierpoint Morgan, jun., Mr. James C. Marshall, Mr. N. C. Macnamara, F.R.C.S. Eng., Dr. E. C. Perry, Mr. T. Pickering Pick, F.R.C.S. Eng., Mr. H. Power, F.R.C.S. Eng., Mr. Albert G. Sandeman, Sir Thomas Smith, Bart., F.R.C.S. Eng., Mr. Julius Wernher, and Mr. Alfred Willett, F.R.C.S. Eng. The various hospitals were visited by two or more visitors, in every instance one of these being a professional man.

HOW TO RESTORE ANIMATION IN ETHERISED SUBJECTS.

A CASE of death which occurred when the patient was under, or had taken, ether, recently reported in the *Brisbane Telegraph*, offers, if the report is correct, food for much thought and for some comment. We cannot vouch for the accuracy of the accounts of the proceedings and we simply give them as they reached us. If the facts are misrepresented our strictures may be unnecessary and, indeed, we hope that such is the case. The scene of the occurrence was a dentist's rooms. The patient, a somewhat stout maiden lady, aged fifty years, required 13 or 14 teeth extracted. The patient had requested a qualified medical woman to give her ether. The evidence of the dentist is that the patient did not take the ether well, symptoms causing anxiety making their appearance early. The administrator states that the patient complained that she was choking. The sequence of events is now somewhat obscure. The administrator states that owing to the unsatisfactory way in which the ether was taken she gave a few whiffs of chloroform which relieved the urgency of the symptoms. She then resumed giving the ether. The dentist, on the other hand, ignores the chloroform, given, it would seem, to a fat patient seated in a chair, but says the patient's state was so unsatisfactory that the administrator removed the mask and *turned round to fill a syringe with ether to inject it*. The italics are ours. He suggested extracting two or three teeth *to rouse the nervous system*. He did extract the teeth, but unhappily the nervous system failed to respond, as might be supposed, to the stimulus of the forceps. Ether was subcutaneously injected and nitrite of amyl was used. The head was lowered, but it appeared almost as if the subcutaneous syringe replaced the all-essential inversion and prompt performance of artificial respiration. We hope the account as we read it is inaccurate for it is a fatal error to lose valuable time at such critical moments. In the first place, the patient should as soon as symptoms of an unsatisfactory nature showed themselves have been inverted, no chloroform should have been given in the sitting posture, and the further administration of ether if attempted at all should only have been done while the patient was reclining. The extraction of teeth in a patient who is on the verge of syncope or in semi-anæsthesia is a step which no experienced or cautious man would consider for a moment, much less practise. The hypodermic injection of ether is not a remedy at all likely to help in such a case. The patient was very nervous and it is possible that she died from fright caused by the suffocative feeling she complained of or from the shock of the teeth being drawn while she was imperfectly anæsthetised, or indeed the syncope may have had no direct connexion with the anæsthetic. Still, as the matter appears in the reported evidence of the magisterial inquiry an unpleasant feeling is left upon the mind that the patient would have had a better chance had other measures been resorted to and with greater promptness. We are not informed how the ether was given. If a cone was used it is probable that the feeling of suffocation was no figure of speech and that the enforced holding of the breath from spasm of the air-passages played no inconsiderable part in producing the fatal issue. Ether improperly given may prove as perilous to nervous and stout subjects as is chloroform. The case is further of interest and importance as death in this sudden way is almost unknown under ether except when due to an overpowering vapour causing spasmodic closure of the glottis.

THE SHEFFIELD SANITARY AUTHORITY AND THE LOCAL GOVERNMENT BOARD.

SHEFFIELD has recently been in communication with the Local Government Board under somewhat peculiar circumstances. We may add that these circumstances have been described in the press under the heading, "Shameful Action of the Local Government Board," which we do not consider to be an accurate description of the situation, though we could have wished that the Board had made its position in the matter clear from the first. This is the story. The two Sheffield fever hospitals were built to accommodate 198 beds, and about a month ago they were actually accommodating 250 patients or more. Under these circumstances the city hospitals committee were empowered by the city council to borrow the money necessary to enlarge the Lodge Moor Hospital. The Local Government Board refused, however, to sanction the loan, and at the same time said that the sewage outfall works of the city at Wincobank did not come up to the requirements of the Board. The case as presented in certain newspaper reports which have been sent to us was one of blackmail. The Local Government Board were represented as having said, "Unless you do this or that with your sewage we shall not give you the necessary facilities for hospital accommodation." This was a capital situation to describe in forcible language, but for the credit of the Local Government Board we hasten to say that no such situation arose. The affair was not so iniquitous and, by the way, not so simple. The Board, we are informed, made no direct refusal of any loan for the extension of hospital accommodation in Sheffield for cases of fever. They postponed further consideration of the matter pending the decision of the city council to make proper arrangements for the purification of the sewage of the city before it went into the River Don and for their apparent dilatoriness they offer a reason. Purification of sewage, if it is to be accomplished to the satisfaction of the Local Government Board, has hitherto meant the land treatment of sewage, while the Wincobank scheme is one for the bacteriological treatment of sewage. The Local Government Board were not prepared off-hand—and, be it remembered, with a Royal Commission actually sitting to decide upon the best method of sewage disposal—to regard the Wincobank scheme as satisfactory, at any rate until they had considered the matter. They are still considering the

matter. In the meantime the somewhat sensational statement that the Local Government Board were blackmailing the city to alter its sewage arrangements by the immoral process of withholding permission from the city for a loan until this was done has been discredited by the sanction of the Board having been received to the borrowing by Sheffield of the sum of £24,000 for the much-needed extension of hospital accommodation.

THE TRAFFIC IN OLD HORSES.

WE are very glad to see that the Board of Agriculture has at last taken steps, if not altogether to put a stop to this infamous trade, at least to rob it of most of its horrors. The Board has issued an Order making it unlawful to convey from any port in the British Isles to any place outside the British Isles "any horse which, owing to age, infirmity, illness, fatigue, or any other reason cannot be so conveyed without cruelty during the intended passage and on landing." In dealing with horses which are fit for removal each one must be carried in a separate box of sufficient size and strength, the flooring must be such as to prevent slipping, and slings must be provided so as to be used if necessary. Adequate ventilation, food, and water must be provided and qualified attendants must be carried on every vessel engaged in such trade. The Order is to come into force on Jan. 1st, 1899, and offences under it are to be dealt with as under the Diseases of Animals Act of 1894. The trade as at present carried on is nothing short of a disgrace to this country, and although we would rather see it prohibited altogether the new Order is a great step in advance. It must be remembered that it is not only the gross cruelty to which we object but that these unfortunate animals are shipped to be used as food. The flesh of a diseased and tortured animal cannot be wholsesome, and although—at least we hope so—we do not consume the "delicacies" prepared in this manner in our own country it is neither dignified nor fitting that we should assist in the poisoning of other nations.

HOSPITAL ABUSE IN BRADFORD.

THE authorities responsible for the management of the various medical charities in Bradford have recently held a conference when the great question of ways and means was discussed. As is usually the case the one cry was "more money." Dr. Hime, in a letter published in the *Bradford Observer* of Nov. 26th—and let us give the editor of the *Bradford Observer* every credit for publishing this letter—pointed out that what was wanted was not so much more money as a right use of that which had been obtained already. "Is there," says Dr. Hime, "such a dearth of money when there is such an amount as could allow a share of it being lavished on a home patient who resides in an excellent house and who could afford to invite the poor doctor who attended on behalf of a medical charity to join his hospitable board on Christmas Day? Can there be urgent want of additional funds when there has been enough to spend on a gentleman retired from business and residing at the seaside who could afford to run over weekly to Bradford to receive medical charity?" Obviously we must answer both these questions in the negative. We have already published an exhaustive account of the phases of hospital abuses in Bradford in our issue of March 26th, 1898. There it will be seen that our Special Commissioner found a large amount of abuse to exist and that a great part of it was due to the reckless manner in which subscribers gave away their letters. We are glad to see that Dr. Hime insisted upon this point also in his letter, for it is one of the most important matters with regard to hospital abuse. Nothing apparently has as yet been done in Bradford to remedy these abuses and we fancy that those responsible for the management of the Bradford medical charities would find it well worth their while to set about making a beginning. Doubtless at first subscriptions would fall off, for, as we have said before in these columns, an increase of patients and a certain amount of debt are the means by which many a hospital lives. Hospital letters are an abomination and should be abolished, for the average subscriber is either too indolent or too unacquainted with the facts of the case to be able to say whether the recipient of hospital charity is a worthy object or not.

DELIRIUM FOLLOWING THE ADMINISTRATION OF SALICYLATE OF SODIUM.

AT the meeting of the Société Médicale des Hôpitaux of Oct. 28th M. Rendu reported the case of a woman, aged thirty years, admitted to hospital for rheumatic fever. Salicylate of sodium, 6 grammes a day in divided doses, was given, which quickly relieved the pain and brought down the temperature. In the evening of the following day the patient was suddenly seized with rigors followed by violent delirium with visual and auditory hallucinations. Next morning the patient was in a state of acute mania, with a temperature of 100·4° F. and with pupils unequal and contracted; the urine, which was scanty, was highly albuminous and was charged with indican. Cerebral rheumatism was excluded on account of the absence of high temperature and the tendency to myosis. M. Rendu hesitated between the diagnosis of uræmia and salicylic delirium. The patient had taken only 12 grammes of salicylate of sodium. It was stopped; from that time the delirium diminished and the urine gradually became normal. Simultaneously the articular pains reappeared. The remarkable points are the sudden onset of the delirium and the urinary symptoms. The patient had no neurotic history.

DEATH OF PROFESSOR G. J. ALLMAN.

ANOTHER of the fast diminishing band of old-time "naturalists" has just passed away in the person of Professor G. J. Allman, LL.D., F.R.S., at the ripe age of eighty-six years. The vast difference in the preparation for a career as Professor of Natural History in the first half of the century to that obtaining at the latter end of the same is made manifest by a superficial glance at Professor Allman's earlier life. Of Irish descent and born at Cork, on reaching manhood he first intended to become a lawyer and studied for the bar. An inherent love of nature, however, made law an uncongenial pursuit, and as at that time and indeed for long afterwards the only practical road to a more or less systematic study of the natural sciences in this country was through medicine, he adopted that profession and graduated in 1844. By some fortunate circumstance he did not have to wait long for an appointment, as he was made Professor of Botany at the University of Dublin very soon after taking his degree, and as showing that his medical studies were merely means to an end he does not appear to have at any time practised his profession. Although the chair of Botany is, as a rule, not a very lucrative post it affords the incumbent a good deal of leisure for other studies, and Professor Allman held it for eleven years, when he was offered and accepted the Regius Professorship of Natural History and Keeper of the Natural History Museum in the University of Edinburgh. Professor Allman was elected a Fellow of the Royal Society of London before resigning his chair in Dublin, and not long after taking up his Edinburgh professorship he was made a Commissioner of Scottish Fisheries which he held until that board was dissolved. He was for some years President of the Linnæan Society and President of the British Association for the

Advancement of Science in 1879, and he served on the Councils of the Royal Societies of London and Edinburgh and the Royal Irish Academy of Medicine and was Examiner in Natural History for the University of London and many other institutions. His chief original work was done on the hydrozoa and polyzoa, and of this much still remains as authoritative. Perhaps his most important works, in book form at least, are "A Monograph of the Freshwater Polyzoa," 1856, and "A Monograph of the Gymnoblastic Hydroids," 1871–72, both published by the Ray Society. The beautiful figures in the first-named are still reproduced at the present day and are not likely to be superseded. A mere enumeration of his papers and contributions would occupy a very large space and they appeared in the Transactions of most of the well-known learned societies of England, Scotland, and Ireland, as well as in the form of Reports to the British Association, the Museum of Comparative Zoology of Harvard University, and the *Challenger* Commission, and in periodicals like the *Quarterly Journal of Microscopical Science*, *Annals and Magazine of Natural History*, &c. All this labour brought to Professor Allman such rewards as science has to bestow. In 1870 he was granted the honorary degree of LL.D. by the University of Edinburgh and in 1872 received the Brisbane Prize from the Royal Society of that city and in the following year a medal was awarded him by the Royal Society of London, and in 1878 he received the Cunningham Gold Medal from the Royal Irish Academy. Professor Allman's death occurred on Nov. 24th at his residence at Ardmore, Parkstone, Dorset.

ST. MARTIN'S VESTRY AND THE NOTIFICATION OF MEASLES.

A MEETING of the vestry of St. Martin's-in-the-Fields was held on Nov. 10th, when two important matters from a public health point of view were discussed. The London County Council had inquired of the vestry whether they were in favour of applying to "measles" all or any of the following sections of the Public Health (London) Act, 1891—viz., Sections 60 to 66 inclusive, and 69, 70, 72, 73, and 74 (Mins., May 12th, par. 4-iii), and the Public Health Committee recommended: "That the Council be informed the vestry do not think it necessary to place 'measles' in the category of notifiable diseases." However, on the motion being put to adopt this clause Mr. Matthews moved that the word "not" be deleted, which amendment was carried by 7 votes to 3 and becoming the substantive motion was carried also. The vestry of St. Martin's-in-the-Fields has thus definitely committed itself to the notification of measles. This is a step which may or may not be of great value, according to the manner in which the notification is carried out. We have not much faith in the advisability or practical use of notifying measles in the same way as, for instance, scarlet fever or typhoid fever is notified; but in THE LANCET of Oct. 1st we gave an account of an "unorthodox" system of notification as carried out at St. Helens which seemed to promise great things. Briefly the system is this. The head teachers of the borough schools are provided with post-cards on which they notify any suspected cases of measles to the medical officer of health. If the suspicion becomes certainty the teacher receives 3*d*. for every case. Children from infected houses are excluded from school, and Dr. Harris, the medical officer of health of St. Helens, has no doubt of the value of the system. We hope that the vestry of St. Martin's-in-the-Fields will proceed somewhat on these lines, though we are not sure whether they will be able to do so under the provisions of the Public Health Act, 1891. The vestry also decided that the London County Council should be informed that the vestry did not favour the establishment of a bacteriological laboratory specially under the council.

CERTIFICATES UNDER THE WORKMEN'S COMPENSATION ACT.

As will be seen by a letter which we publish in another column the Board of Management of the Norfolk and Norwich Hospital have come to a most praiseworthy decision—namely, that the fee for filling up certificates under the new Workmen's Compensation Act shall be half a guinea, and that for the present the hospital residents shall be responsible for the certificates and shall retain the fees. We hope that every hospital in the kingdom will follow this example and we would urge in addition that a fee, not necessarily half a guinea, should be charged by hospitals for filling up all club certificates and especially school board certificates. The nuisance and the waste of time caused to the resident medical officers in a large hospital by having to fill up club and school board certificates are inconceivable, and the trouble is not lessened by the habit which the educational bodies have of refusing to accept the said certificates or of causing them to be revised by a layman. The certificate question is a form of hospital abuse which it is perhaps more easy to do away with than any other, and we are glad to see that the old city of Sir Thomas Browne has made the first move towards so happy a consummation.

MEMORIAL TO THE LATE MISS MABEL WEBB, M.B. LOND.

ON Nov. 22nd a meeting was held at the Royal Free Hospital to consider the question of founding a memorial to the late Miss Mabel Webb, M.B.Lond., curator of the hospital museum. The Hon. Mr. Justice Bruce, chairman of the committee, presided, and there were present several members of both the committee and medical staff of the Royal Free Hospital and of the School of Medicine for Women, and many past and present students and other friends of the hospital. The chairman, in explaining the objects of the meeting, referred to the many valuable services which Miss Webb had rendered to the hospital. He then called upon Mr. James Berry to move the first resolution, which ran as follows: "That it is desirable there should be a memorial to Miss Mabel Webb, the late curator of the museum at the Royal Free Hospital." Mr. Berry pointed out with what exceptional zeal and energy Miss Webb had devoted herself to her work, and how she had won the regard and affection of all with whom she had come in contact. He suggested that the most suitable means of perpetuating her memory would be to carry out a scheme which she herself had much at heart—viz., the rebuilding and improvement of the museum. This was seconded by Mrs. Scharlieb, M.D. Lond., who paid a tribute to the lofty character and personal charm of the late curator whom she had long known and loved as pupil and friend. Dr. R. H. P. Crawfurd then proposed the following resolution: "That the memorial should take the form of some improvement in the pathological department of the hospital." He explained the details of the proposed scheme to rebuild the museum with the addition of adequate facilities for pathological work and stated that it was estimated that the cost would amount to about £1500. This being seconded by Miss Clapham on behalf of the students, Mr. C. W. Blackman, speaking for the family of the deceased, said that they appreciated very much the kind feeling shown by the proposed memorial, and that they warmly approved of the form which it was intended to take. He also announced the very generous offer on the part of Mrs. Webb to defray the main portion of the expense of the work. A committee was then appointed to carry out

the details of the scheme, and it was announced that subscriptions to the amount of nearly £200 had already been promised. Further subscriptions, it was stated, would be gladly received by Mr. C. W. Thies, the secretary of the hospital.

CHLORIDE OF ZINC AS A CAUSE OF DERMATITIS.

EQUALLY interesting and important are cases in which an inflammation of the skin has been set up by the external application of an irritant substance. The list of the substances which may give rise to this artificial dermatitis is very long and it includes several plants, such as Rhus toxicodendron and Primula obconica, various aniline dyes, and numerous mineral matters. This form of dermatitis is important, because it is in many cases the result of the intentional employment of irritants by the patient himself or, more commonly, herself, and also by no means rarely it occurs as the effect of the wearing of particular garments. The commonest variety of this is due to the irritation of aniline dyes, especially the red ones, though in these cases some attribute the dermatitis to the accidental admixture of arsenic with the dye. Occasionally these apparel rashes are due to mineral substances employed as mordants for the dye and an extensive example of this is recorded in another column of THE LANCET. The workmen in a firm were all provided with new overcoats about the same time and they wore them on one particular day which was very wet. In a large number of the cases an inflammation of the skin appeared at the parts touched by the coats—namely, at the wrists and at the neck. The epidemic character and the situation of the rash pointed clearly to the coats as the exciting cause and an analysis of the liquid obtained after soaking a piece of the cloth gave abundant evidence of the presence of chloride of zinc. If only one case had occurred the diagnosis of the cause would have presented much greater difficulty.

THE READING ANTI-VACCINATIONISTS AND THE NEW VACCINATION ORDER.

THE Reading Board of Guardians have, at any rate for the moment, been carried by their anti-vaccination section into an altogether illogical and illegal position—namely, by a large majority, they have practically refused to carry out the terms of the New Vaccination Order. They appear more particularly to resent the statutory powers with which the Local Government Board is vested of fixing the scale of payments to public vaccinators and vaccination officers. It is clearly the feeling of the anti-vaccinationists that those who pay the piper should also call the tune, and, if we mistake not, this section of the Reading guardians has a distinct tendency towards dispensing entirely with the services of the piper, though they are perhaps too wary to verbally admit this. According to the local papers the leader of the dissentient guardians "in language of extreme vituperation condemned the whole system of vaccination which, he said, was most abominable and had proved a failure and exceedingly dangerous." In spite of these views the speaker was anxious to observe that the dissentients had no desire to prevent believers in vaccination from being vaccinated; they had no wish to act as oppressors. But it is perfectly clear to those who read between the lines that even if these be their views they are desirous of obtaining vaccination for the poor who believe in its protective value at as cheap a rate as possible. It is well that the poor throughout the country should realise to the full this attitude on the part of the anti-vaccinationists and that they should comprehend that, not content with having obtained a system by means of which every conscientious objector may procure relief from vaccination, they are bent on depriving the working man of the privilege he has enjoyed for many years of having his child and himself properly protected against small-pox. The public should appreciate what this action on the part of the agitator may mean. It may mean that when an outbreak of small-pox occurs the poor who cannot afford to pay will clamour in vain for protection, and then, perchance, the chickens will come home to roost.

THE EXPENDITURE OF THE METROPOLITAN ASYLUMS BOARD.

IF the system of expenditure, or rather the want of a system of supervision, in the case of the Brook Hospital is a specimen of the work of the Metropolitan Asylums Board it is a serious look-out for the ratepayers of London. The inspector of the Local Government Board, Mr. W. E. Knollys, as one result of his inquiry seems to be astonished at the helplessness of public bodies to control expenditure. He finds that of the large excess of expenditure over estimate in this hospital a liability of at least £25,000 was incurred by the architect without the knowledge or consent of his committee. Some of this, it is admitted, was necessitated by want of time and by defective foundations, but some of it was due to the architect desiring to have the best possible hospital attainable. The inspector also found that the supervision by the committee was defective. The Local Government Board have disallowed the sum due to the architect on account of work ordered on his own responsibility. The report of the inspector is referred to the committee for consideration and report. Dr. Farquharson has done a great service in procuring this inquiry, and it is obvious that a similar inquiry should be made in regard to the other institutions of the Board. It would not be fair to throw the whole blame on the architect. It is obvious that the evils arise out of the system which puts such enormous undertakings for the whole of London on the shoulders of a comparatively small body of men whose time and knowledge of details is limited and who necessarily cause the work to devolve upon their paid officials.

HENRY THOMAS SYLVESTER, M.D. ABERD., V.C.

DR. H. T. SYLVESTER is the possessor of that most valued of almost all decorations, the Victoria Cross. Since his retirement from the army he has lived and carried on his profession in Westminster, but he has recently felt compelled to give up active work. The occasion of his retirement it was felt by his friends should be observed as a fitting opportunity to mark their sense of his services to all who had benefited by his aid, and accordingly on Nov. 25th a large gathering assembled in the mission house of Holy Trinity, Westminster, when Dr. Sylvester was presented with the picture by Desanges, formerly in the Victoria Cross Gallery at the Crystal Palace, representing the act for which he and Corporal Shields received the Victoria Cross. The incident occurred after the assault on the Redan, on Sept. 8th, 1855, when Lieutenant Dynesley was lying severely wounded outside that fort. Sylvester and Shields volunteered to go and bring him in and to do so they had to pass under a very heavy fire, but they succeeded in performing their mission. In addition to the picture Dr. Sylvester was presented with a piece of plate and an album containing the names of the subscribers, among whom were many medical men as well as Mr. Burdett-Coutts, Member of Parliament for Westminster, and Colonel Robert Bruce, C.B., late of the Royal Welsh Fusiliers, Dr. Sylvester's old regiment. The presentation was made by Mr. Burdett-Coutts. Colonel Bruce also spoke and gave an account of the incident represented in the picture. Dr. Sylvester, in reply, gave his version of the affair of which he made very light, saying

that though he had done what he could for Lieutenant Dynesley, yet that officer's wounds were such that his case terminated fatally. Our thanks are due in the name of the profession to all those who aided in carrying out this kindly presentation, the inception of which was due to Mrs. Wheeler, one of the guardians of the poor for Westminster.

MEDICAL WITNESSES.

AT a recent meeting of the Shropshire and Mid-Wales Branch of the British Medical Association. Dr Cureton of Shrewsbury, who has been for nearly twenty years a police surgeon, moved the following resolution, which was carried unanimously:—

That in the opinion of this meeting some special accommodation should be provided for medical witnesses in waiting before the grand jury and in courts of assize and quarter session upon the production by them of their subpœnas or other evidence of identity to those in authority; and that copies of this resolution be sent to the Chairman of Quarter Sessions, the Chairman of the Grand Joint Committee of the County Councils and the Clerks of the Peace and chief constables in the area of the branch.

In our opinion this is a much-to-be-desired reform, and not only for medical witnesses, but also for other expert witnesses. To take a prominent instance, the accommodation, or rather the lack of it, at the Old Bailey is disgraceful. There should be a witness-room, or possibly two such, the one for expert witnesses and the other for the ordinary witnesses. The giving of evidence is a duty imposed upon every citizen by law, and one, moreover, which it is only right that every citizen should fulfil apart from any legal obligation, but it is an ordeal which, trying as it always is, should not be made more trying by the lack of a few conveniences which might be easily arranged for. The law's delays are proverbial, but we hope that Dr. Cureton's resolution will in no very long time bear fruit.

THE STUDY OF TROPICAL DISEASES IN LIVERPOOL.

MR. CHAMBERLAIN'S scheme for the teaching of tropical diseases to colonial surgeons, wherever the school may be located, has already borne practical fruit. Mr. Alfred Jones of Liverpool has offered £350 annually to establish and maintain a laboratory in Liverpool for the study of tropical diseases and the scheme will be carried out by a joint committee of the Royal Southern Hospital and of University College. A laboratory for immediate investigation will be built opposite the hospital, whilst prolonged research will be carried on in the pathological laboratory of University College, under the direction of Professor Boyce. A large number of cases from the West Coast of Africa are taken into the wards of the Royal Southern Hospital, as Liverpool, being the centre of the African trade, is in constant communication with West Africa. We again have to congratulate Liverpool on the munificence of her citizens and would direct the attention of medical men about to practice in any capacity on the West Coast of Africa to the opportunity that is being afforded them for obtaining invaluable information.

LECTURES ON MEDICAL RELIEF.

THE fifth of the course of lectures on Medical Relief now being given on Fridays at 4.30 P.M. at the Portman Rooms, dealt with the lunatic asylum, the lecturer being Dr. H. Rayner. The most important stage of treatment in insanity was the incipient stage of the disease, and in Dr. Rayner's opinion insanity should to a large extent be considered a preventable disease; at present cases were not treated early enough. He strongly advocated the establishment of special out-patient departments in connexion with general hospitals and infirmaries; in this way facilities would exist for the treatment of diseases of special organs which helped to develop the mental disease and the association of mental with ordinary disease would tend to the more rapid destruction of the prejudice against insanity as something uncanny. A specially organised hospital ward should be set apart for temporary treatment of those needing special care. "Reception houses" should replace the present workhouse lunatic wards, the 30 such wards now existing in the metropolis being reduced to 5 or 6 reception houses, with a staff of specially qualified medical officers and a specially trained nursing staff, with facilities for calling in the aid of specialists of all kinds. In the cases where the disease was fully developed certified pauper lunatics should be divided at once into classes according to the specia kind of treatment required. The first class would comprise the cases of active mental disorder complicated by bodily disease and needing hospital treatment. The second division would comprise the cases where the mental disorder was acutely active and constant supervision was required. The third division would comprise a much larger number—viz., those sufficiently self-controlled to work at trades involving the use of tools and to be allowed a certain amount of liberty. The epileptic insane, who had also to be provided for separately, the lecturer thought should be aggregated in colonies, as had been done in the State of New York. Dr. Rayner advocated the establishment of the farm colony system as being efficient and economical both in initial expenditure and in maintenance, the need for increased supervision being met by increased productiveness.

LEPROSY IN NEW SOUTH WALES.

WE have just received Dr. J. Ashburton Thompson's report on leprosy in New South Wales for 1896. The report, which is dated Nov. 4th, 1897, states that on Jan. 1st, 1896, 37 persons remained under detention at the lazaret at Little Bay. During the year 9 persons were reported under the Leprosy Act, 1890, as being suspected lepers and 3 of them were eventually admitted to the lazaret under warrants issued by the Board of Health. Five patients died during the year, 4 being natives of Australia of European descent and 1 being a native of Ireland. On Aug. 14th there were 20 Chinese patients in the lazaret and on that day 19 of them were embarked on a cargo steamer to be taken to Hong-Kong, from which place they were removed on board a tug to Canton and there dismissed under supervision of the Consul. There were therefore 16 persons in the lazaret on Dec. 31st, 1896, including 7 natives of New South Wales, 2 English, 1 Fijian, 1 German, 2 Chinese, 1 Japanese, 1 an aboriginal of Tanna, and 1 a native of India. The total number of persons admitted since 1883, when patients first began to be received (though the notification of leprosy was first made compulsory and the detention of lepers provided for by law only towards the end of 1890) is 61. The three patients received during the year were all Chinese, this being the first year since 1890 in which no case in a white person has come to notice. An appendix to the report gives copious clinical and etiological notes of these three cases, together with four full-sized reproductions of radiographs of the hands of two patients suffering from the smooth form of leprosy; the absorption, either complete or partial, of the phalangeal bones is well shown.

FAMILY SPASTIC PARAPLEGIA.

IN a recent number of the *Neurologisches Centralblatt* a very interesting abstract appears of a most important paper on this subject by M. Lorraine of Paris. He first gives a short account of "family" diseases affecting the nervous system. He points out that the lesions are often

diffuse, not always affecting definite systems of fibres in the cord, and that transition forms are very numerous. He then considers his special subject—viz., family spastic paraplegia—and his remarks are founded on the observation of cases and on a consideration of a now somewhat extensive literature. Nervous and mental diseases, syphilis, alcoholism, relationship between father and mother, all predispose to the disease. This is found to affect the sexes equally. Infectious disease and traumatism seem occasionally to precede the manifestations of lateral sclerosis. The typical symptoms are spastic gait with increased reflexes and ankle clonus without sensory impairment or interference with the sphincters. Occasionally optic atrophy is observed. Rarely intelligence is defective. The course is usually one of gradually increasing interference with working power and death is often the result of tuberculosis. The only necropsy has been reported by Strümpell, who found primary combined sclerosis of the pyramidal tracts, of the direct cerebellar tracts, and also of the columns of Goll. The former were affected chiefly in the dorsal, the latter chiefly in the cervical, region. Myelitis, compression myelitis, spinal syphilis, and multiple sclerosis, are all to be distinguished, the principal differentiating features being the absence of sensory and sphincter impairment in family spastic paralysis and the presence of a family history. Hereditary cerebellar ataxy presents some features of similarity, but is sufficiently distinguished by the ataxy of the gait. In regard to treatment, warm baths, massage, and rest are recommended, and in certain cases tenotomy, or even it is said neurotomy, may occasionally be useful.

THE NEW SCHOOL OF TROPICAL MEDICINE.

MR. CHAMBERLAIN'S scheme for the establishment of a School for Instruction in Tropical Medicine has naturally attracted a large amount of attention. We have already signified our approval of the proposal to afford opportunities to colonial medical officers and to other members of our profession who intend to practise in tropical districts for the study of the special diseases which they are likely to be called upon to treat. At the same time we have expressed the objections which are being and will be raised to the details of the scheme now under consideration. A judicious protest against certain of these details, over most authoritative and representative signatures, has already reached Mr. Chamberlain's eye and cannot be without its influence upon a Minister so clearly desirous of doing what is right and, above all, what is best for the country. We now publish the correspondence which has taken place between the honorary medical staff of the *Dreadnought* Hospital, Sir Henry Burdett, and Mr. Michelli, the secretary to the Seamen's Hospital Society. This correspondence fully bears out our statement that the medical staff in question have received rude treatment where they might have expected particular courtesy considering the long duration—eighteen, ten, and seventeen years respectively—of their services. Dr. Curnow and Dr. John Anderson, the physicians, and Mr. G. R. Turner, the surgeon to the hospital, naturally objected to the teaching staff of the new school being formed without their previous knowledge; but, as we stated last week, the first intimation they had of what was being done was derived from a letter to the *Times*. The answer given by Mr. Michelli on behalf of the committee to a request for an explanation is simply evasive. He writes that "the statement that 'the teaching staff will consist of the senior medical staff of the *Dreadnought* Hospital at Greenwich as well as of the Branch Hospital, together with a number of teachers specially selected and attached to the new school,' was manifestly intended to convey the meaning that the members of the senior medical staff of both hospitals would have the first option of undertaking the educational work of the staff." We entirely fail to see how a positive statement can "manifestly" be taken to mean a mere proposition, and while expecting to have more to say soon on this matter we content ourselves now by referring our readers to page 1499.

A REPORT from the Pharmacopœia Committee on the proposed Indian and Colonial Addendum to the British Pharmacopœia of 1898, with suggestions for consideration by the medical and pharmaceutical authorities in India and the colonies, was approved and adopted by the General Medical Council on Wednesday. The report contains some very interesting therapeutical information.

THE Plague Commissioners arrived on Saturday last, Nov. 26th, at Bombay by the *Sutlej*. They will hold a few preliminary sittings at Bombay and then in the following week they will proceed to Hyderabad, reaching Calcutta about Christmas. They will return to Bombay later.

THE annual dinner of the Royal Society was held on Wednesday evening last under the presidency of Lord Lister. Lord Curzon of Kedleston and Lord Kitchener of Khartoum were the guests of the society, and received an enthusiastic welcome.

MR. W. S. COLMAN, M.D., F.R.C.P. Lond., was on Nov. 30th elected an Assistant Physician to St. Thomas's Hospital.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE thirty-sixth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Nov. 22nd. The Commissioners present were Lord Llandaff (chairman), the Right Hon. John W. Mellor, Sir John Dorington, Sir George Barclay Bruce, Major-General Scott, Mr. de Bock Porter, and Mr. Robert Lewis.

Mr. R. E. MIDDLETON, in answer to the CHAIRMAN, said that he thought that if the undertakings of the metropolitan water companies were purchased it would entail a loss to the consumers and a still greater loss to the ratepayers if the conditions of revenue spoken of by a witness of the London County Council were carried out—that is to say, if the water rents were reduced to one level for all London, that level being the charge made by the West Middlesex Company.

In answer to Mr. MELLOR the witness said that if the companies were sold to a public authority he did not think that in estimating their value the question of the liability to injury by frost ought to be taken into account.

Mr. MELLOR suggested that if a water company were sold all accidents which might happen to the undertaking ought to be taken into account. The witness thought otherwise. Accidents which might happen were not the act of the company but the act of God. They were not the fault of the company. The witness admitted, however, that if the financial conditions of the company were investigated during a period of years in which a frost happened, and if the income of the company were thereby reduced, no doubt that loss ought to be taken into consideration.

In answer to Sir GEORGE BARCLAY BRUCE the witness said that the arbitrator in coming to a conclusion as to the just price would have to consider the past revenue, and inasmuch as droughts and frosts had affected the revenue in the past they should to that extent be taken into account.

Mr. LEWIS suggested that if the companies charged for water whether it was supplied or not drought would not affect their revenues. The witness said that a company's revenue was affected if they had to purchase water from another company and only in that case, and the CHAIRMAN pointed out that the Commissioners had heard that the East London Company had continued their charges for high services though all high cisterns were without water. The

CHAIRMAN asked the witness whether in the case of purchase of the undertakings by one authority some saving would not be made in the cost of management and maintenance. The witness replied that in his opinion a board which had been in existence a great many years would be more likely to be economical than one of a fleeting character which was unlikely to effect economies. He thought, moreover, that municipal management did not as a rule effect economies. That argument he admitted would not apply to the case of purchase by a special board of experts created *ad hoc*. With regard to the compensation of directors and officials which it was suggested would become an expense to the purchasing authorities Mr. MELLOR pointed out that it would be necessary for the new board to keep their officials. If they still employed them there would be no occasion to pension them.

Sir GEORGE BARCLAY BRUCE suggested that as there would be fewer officials some at least would have to be pensioned off, but Mr. R. LEWIS pointed out that pensions so paid to officials who were not wanted would not lead to any increase of expenditure because in the case of such a retired official the vacancy would not be filled.

Mr. DE BOCK PORTER suggested that if all the undertakings were under one management fewer officials would be required. The witness replied that he thought otherwise and that he believed more officials would be required.

Mr. DE BOCK PORTER referred to the great expense incurred in the collection of water-rents under the present system, and the witness admitted that there were at present a large number of collectors, and that if the water-rents were collected with the municipal rates the cost of collection would be diminished.

Mr. LEWIS suggested that it would not be necessary that eight secretaries, eight accountants, and eight cashiers should be employed if the undertakings were under a single management.

In answer to the CHAIRMAN the witness said that he did not remember Mr. Banbury's scheme of purchase, but he thought that the shareholders of the present undertakings were entitled to compensation for prospective value.

Sir GEORGE BARCLAY BRUCE suggested that the purchaser would likewise be entitled to a consideration for prospective diminution of income should it be proved that the undertakings would probably produce less than they have in the past.

The question arose as to the effect which a rise in the rates would produce on the water companies' undertakings. The witness said he was utterly unable to answer definitely what the effect of this would be on the companies' profits.

Sir JOHN DORINGTON asked whether in the case of purchase a valuable ratepayer would be lost, but it was pointed out that the London County Council pays rates and the water companies also have at present to pay rates in the counties of Middlesex, Surrey, Essex, and Kent, where some of their property is situated.

Mr. R. LEWIS raised the question of the effect of the sinking fund clause on the future financial state of the companies, and Mr. DE BOCK PORTER pointed out that the operation of the fund in the future would be very large and said that it would be impossible in the case of arbitration to overlook that fact. He also pointed out that as a matter of fact the present method of collecting the water rents is a very expensive one and at the present time costs no less than £50,000 a year.

The CHAIRMAN examined the witness with regard to the effects of purchase on the outside authorities. The witness pointed out that the mains of the companies had not been laid with any idea of supplying water in bulk beyond the metropolitan area. They had been laid across the county boundary in all directions and in many cases there were a very large number of mains crossing the boundary. Some of these supplied from the outside inwards; others from the inside outwards; some crossed in both directions. If a supply were given in bulk from the inside outwards many of these mains would have to be relaid and meters would have to be placed on them. In the case of the East London Company the chief mains passed from Essex into the county of London, the county boundary being the River Lee and the company's chief pumping station at Lee Bridge being in the county of Essex. (Part of the Lee Bridge station is as a matter of fact in the county of Middlesex. A description of this station has already appeared in THE LANCET.) With regard to the New River Company the witness said that all the pumping stations were entirely outside the county of London (the pumping station at New River Head must have been forgotten by the witness). In the case of the West Middlesex Company about twenty main pipes cross the boundary in West Middlesex and there were some sixty-one smaller mains, about half of which were used for the supply inside the county of London and half of which supply the outside area and which necessarily cross the boundary to do so. In the case of the Chelsea Company the witness pointed out that the works are almost entirely outside the county of London and the whole supply is given within the county of London. In the case of the Southwark and Vauxhall Company the service reservoirs are situated at Nunhead and at Forest Hill in the county of London. There is no system of mains in existence by which water could be supplied in bulk from these reservoirs for the use of the county of Surrey. The mains at present passing through Surrey are used to supply mains both inside the metropolis and outside and they would have to be cut off and reconnected in order to make them useful for supplying Surrey. The length of boundary line between the metropolis and the county of Surrey in the case of the Southwark and Vauxhall Company is about three and a half miles. The Lambeth Company supplies a distance of about fourteen and a half miles on the boundary, about seventy streets cross the boundary, and some of these have two or more mains laid in them. The supplies of the Kent Company are drawn entirely from wells. The largest pumping station is at Deptford, and there are pumping stations at Plumstead, Shortlands, Crayford, Farnborough, and Wilmington in the county of Kent. Plumstead is situated in the county of London.

The CHAIRMAN asked the witness whether he could give an estimate of the expense of remodelling the distribution of water so as to enable the county of London if it were the purchaser of the metropolitan companies to supply all the outside authorities in bulk. The witness replied that he could not give an estimate, that the cost would be very large—it would at any rate amount to several hundreds of thousands of pounds, probably to nearly a million.

Major-General SCOTT asked whether it would not be possible for the companies to put in a statement giving the cost. The witness said that they could not do so without considerable trouble.

In answer to the CHAIRMAN the witness said that in his opinion a supply in bulk to the county of London would be practicable but it would be inconvenient and expensive. The witness went into considerable detail with regard to a scheme suggested by Sir Alexander Binnie for dividing the water-supply of the Lambeth Company in such a way that the county of London and the metropolitan authority could each have control of their own supply. In order to make matters clear he described the situation of the reservoirs, filter-beds, and pumping-stations of the Lambeth Company, which have been already described in THE LANCET. With regard to the Staines reservoir scheme the witness said, in answer to Mr. DE BOCK PORTER, that up to the present time 620 acres have been acquired. To complete the scheme 4500 acres would be required. The witness handed in a table giving his estimate of the cost of supplying 185½ millions of gallons daily from the Thames. This estimate was made for comparison with one given by Sir Alexander Binnie.

COMPARISON OF SIR A. BINNIE'S AND MR. MIDDLETON'S ESTIMATES OF COST OF SUPPLYING 185½ MILLION GALLONS PER DAY FROM THE THAMES.

To Supply 185½ Million Gallons per Day.

SIR A. BINNIE'S ESTIMATE.

	Million gallons.	Total.	Cleansing.	Bottom and evaporation.	Net.
Capacity	8000	— 8000	— 2000	— 1000	= 5000
Less existing capacity	866				
Total capacity	7134 at £380 per million gallons				£2,710,920
*Annual pumping into reservoirs (1893)	10,566 at 5s. per million gallons = £2639. Capitalised at 30 years				79,170
†Distributing 55½ million gallons per day	20,257½ at £2 10s. per million gallons = £50,644. Capitalised at 30 years				1,519,320
Total					£4,309,410
Pumping machinery for distribution					396,775
Total					£4,706,185

Note by Sir A. Binnie.

The above estimate includes nothing for the capital cost of the engines and accessories to pump the 55,500,000 gallons for distribution, but, as will be seen from the estimate of Messrs. Hunter and Fraser (Royal Commission, appendix C 66, page 473, second column), they apparently include a capital sum of £1,212,300 as a total in 1941 for this purpose.

At this rate £395,775 should be added to the above.

Note by Mr. Middleton.

* The charges for pumping to store have been capitalised on the draft during the year of greatest drought, not on the average of years, as they should have been.

† This capitalisation has been made on the cost of pumping 55½ million gallons per day, which will not be reached until the year 1916. It should be on the average less than half that quantity. The sum so arrived at should be discounted for present value.

To Supply 185½ Million Gallons per Day.

MR. MIDDLETON'S ESTIMATE.

	Million gallons.	Total.	Cleansing.	Bottom and evaporation.	Net.
Capacity	5239	— 5239	— *Nil.*	— 476	= 4753
Less existing capacity	866				
Total capacity... ...	4373 at £300 per million gallons ...				£1,311,900
*Pumping into reservoirs	4431 million gallons, average for 16 years, at 7*s.* 6*d.* per million gallons = £1661 12*s.* For 16 years...				26,586
*Cost of pumping to supply a quantity increasing from *nil* to 55½ million gallons per day during 16 years, at £2 4*s.* per million gallons					320,178
Total					£1,658,664
Pumping machinery for distribution					181,980
Total					£1,840,644
*If the pumping charges be capitalised at 30 years' purchase a sum of £307,524 must be added. This has been done by Sir A. Binnie, but I do not concur					307,524
Total					£2,148,168

The thirty-seventh sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Monday, Nov. 28th. The Commissioners present were Lord Llandaff (chairman), the Right Hon. J. W. Mellor, Sir John Dorrington, M.P., Sir George Barclay Bruce, Major General Scott, Mr. de Bock Porter, and Mr. Robert Lewis. The whole of the sitting was occupied by the examination of Mr. Middleton who put in an enormous number of tables relating to the cost of the storage reservoirs which would be necessary should the Thames coutinue to be used as a source of extra supply and a number of tables relating to the cost of Sir Alexander Binnie's scheme for bringing water from Wales.

In answer to the CHAIRMAN the witness said that in his opinion it would cost very much more to bring a supply from Wales than to obtain an equal amount from the Thames. He thought that the sources of the valleys of the Lee and of the Thames would afford an adequate supply of water for the next fifty years.

In answer to Mr. MELLOR the witness said that he thought that on an average 400,000,000 gallons could be taken daily from the Thames.

In answer to the CHAIRMAN the witness said that water from Wales would have to be filtered. The Chairman remarked that he had understood that the Welsh water was to be "pure nectar."

Mr. BALFOUR BROWNE pointed out that it was proposed to filter the water derived from Wales but the cost of doing so would be less than the cost of filtering Thames water.

In answer to the CHAIRMAN the witness gave an estimate of the amount of water which he thought could be obtained from the existing sources. It was briefly as follows:—

	Gallons.
From the Thames	400,000,000
From the Lee	52,500,000
From wells in the Lee Valley	40,000,000
From wells in the Kent Company's district...	27,500,000
From the Southwark and Vauxhall well at Streatham	2,000,000
From other wells in Kent	123,000,000
	645,000,000
In addition wells sunk in the chalk would yield a supply of	190,000,000
Total estimated supply... ...	**835,000,000**

The estimate given by Lord Balfour's Commission was 420,000,000 gallons daily.

The witness said that he would have seen no objection to taking water at the rate of 400,000,000 gallons daily from the Thames this year. (But for the space of three months the natural discharge of Teddington Weir was not 400,000,000 gallons.) There was statutory power now to take 185,000,000 gallons, and the witness did not think that the loss of another 130,000,000 gallons per day would be appreciable in the tidal part of the Thames.

In answer to Sir GEORGE BRUCE the witness said that the amount of the estimate given by the London County Council for a water-supply of 123,500,000 gallons per day was £21,000,000, whilst the cost of putting up storage reservoirs to supply a like amount from the Thames would not be much over £6,600,000.

With regard to the amount of water which could be obtained from the valley of the Lee the witness said in answer to the CHAIRMAN that he did not think that 52,500,000 gallons daily was an extravagant amount to estimate as the supply to be derived from the River Lee. He did not admit that the Lee had been reduced to a shocking state, but its condition during the present year had been exceptional.

In answer to the CHAIRMAN the witness admitted that there had been an insufficient amount of water to supply the East London Waterworks Company, but thought that more storage reservoirs should be put up in the Lee Valley. With regard to the Thames the witness gave it as his opinion that the flow over Teddington Weir could quite safely be reduced to an amount less than 200,000,000 gallons daily. If there was no flow of water down the Thames the sewage at the lower part of the river would oscillate backwards and forwards. With regard to the control of the water drawn from the sources of supply the witness suggested that it might be managed by an amalgamated board and the method of management might be left with the companies. His suggestion was that a board similar to that constituted for the management of the Staines reservoirs should be appointed and that this board should decide in what way the water should be distributed, from what source it should be derived, and how much each company should be empowered to get from the Thames or elsewhere. The witness thought that in future Parliamentary powers for the abstraction of water from the Thames should not be given to any one company but to the whole eight companies in such proportions as the board should determine. The companies should amalgamate for the purpose of obtaining water. This amalgamation would not interfere with the present financial arrangements of each separate company. This proposal the witness put forward as his own view of the best solution of the difficulties which might arise on application for powers for further abstraction of water from the Thames.

In answer to the CHAIRMAN the witness said that he attached little importance to the fact that during periods of flood much agricultural sewage came down the river and he saw no objection to pumping flood water into the reservoirs. The amount of pollution which existed in the flood water of the Thames would not, in his opinion, be injurious.

The witness described the present storage reservoirs belonging to the metropolitan water companies. The storage capacity belonging to the various companies for Thames water was stated to be as follows:—

	Gallons.
Southwark and Vauxhall	136,000,000
Lambeth	125,000,000
East London	5,000,000
West Middlesex	397,000,000
Grand Junction	64,500,000
Chelsea	140,000,000

(The New River and the Kent companies do not draw any water from the Thames at present.)

The above figures represent the existing storage capacity now at work, exclusive of the Staines scheme or the works now under construction at the Southwark and Vauxhall Company's station. The additional storage either in process of construction or authorised is 327,000,000 gallons for the Southwark and Vauxhall Company, 335,000,000 gallons for the Lambeth Company, and 3,300,000,000 gallons for the Staines reservoirs.

The Commissioners adjourned till Tuesday, Nov. 29th.

The thirty-eighth sitting was held on Tuesday, Nov. 29th, when Mr. Middleton was still under examination. The

witness again put in many tables and was cross-examined by Lord R. Cecil on behalf of the Hertfordshire County Council. The next sitting will be on Monday next, Dec. 5th.

A TROPICAL SCHOOL OF MEDICINE.

WE have received for publication the following correspondence which has taken place between representatives of the committee of the Seamen's Hospital Society and the honorary visiting staff of the *Dreadnought* Seamen's Hospital, Greenwich. The bearing of these letters upon the scheme for a Tropical School of Medicine which we have recently discussed and are still discussing in our columns is obvious.

13th July, 1898.

DEAR SIR HENRY BURDETT,—In your letter in the *Times* of Monday last on the subject of a proposed School for Tropical Diseases in London, you say:—

"The teaching staff will consist of the senior medical staff of the *Dreadnought* Hospital at Greenwich, as well as of the Branch Hospital, together with a number of teachers specially selected and attached to the new school."

Will you be so kind as to inform me upon what authority you make this statement, in so far as it refers to the medical staff of the *Dreadnought* Hospital?

Apologising for troubling you, believe me, yours truly,

J. ANDERSON.

15th July, 1898.

DEAR DR. ANDERSON,—As my letter was written under instructions from the committee of the *Dreadnought* Hospital I have referred your letter of the 13th instant to them and will let you know in due course.

Believe me, yours very truly,

Dr. Anderson, 9, Harley-street. H. BURDETT.

The Lodge, Porchester-square, W., 18th July, 1898.

DEAR DR. ANDERSON,—With further reference to your letter of the 13th inst., I am desired to say that it is the intention of the committee of the *Dreadnought* Hospital to give the opportunity to the senior medical staff of both their hospitals to take part, if they thought well, in the work of instruction at the School for Tropical Diseases about to be established at the Branch Hospital.

Believe me, yours very truly,

Dr. Anderson. HENRY C. BURDETT.

Dreadnought Seamen's Hospital, Greenwich, S.E., 14th July, 1898.

DEAR SIR,—I am directed to inform you that upon the representation of the Colonial Office, the committee of management of the Seamen's Hospital Society have resolved to establish a school for the study of tropical diseases in connexion with their Branch Hospital in the Royal Victoria and Albert Docks. This will involve the erection of school buildings and the enlargement of the hospital to 45 beds.

I have been directed to ask you to coöperate in this movement and to confer with the other members of the society's honorary medical staff, with a view to suggest to the committee of management arrangements as to the educational staff and the general system of the school. The committee will propose as far as possible to concentrate cases of tropical disease at the teaching centre. Yours faithfully,

J. Curnow, Esq., M.D., F.R.C.P. P. MICHELLI, Secretary.

P.S.—I enclose a letter and a leader which appeared in the *Times* of July 11th in reference to the scheme.

9, Wimpole-street, Cavendish-square, W., 16.7.98.

DEAR SIR,—I am in receipt of your letter of the 14th inst., with the cuttings from the *Times* of July 11th, which I had already seen in the *Times* of that date. Would you oblige me by informing me whether Sir Henry Burdett personally, or the hospital committee, are responsible for the statement that "the teaching staff will consist of the senior medical staff of the *Dreadnought* Hospital at Greenwich," &c.? The publication of such a statement without my being asked, in a scheme of which I knew nothing before I saw it in the *Times*, seems to me most discourteous to myself and intended to convey an unwarranted impression to the public.

I also wish to know if the committee seriously propose "to concentrate cases of tropical disease" at the Branch Hospital and thus deprive the parent hospital of its one distinctive feature.

Believe me to remain, faithfully yours,

JOHN CURNOW, M.D

P. Michelli, Esq., Secretary, Seamen's Hospital Society.

Dreadnought Seamen's Hospital, Greenwich, S.E., 21st July, 1898.

DEAR SIR,—In reply to your letter of the 16th inst., I am directed to say that Sir Henry Burdett's letter was written upon information supplied to him by the committee of management, and the statement that "the teaching staff will consist of the senior medical staff of the *Dreadnought* Hospital at Greenwich, as well as of the Branch Hospital, together with a number of teachers specially selected and attached to the new school"; was manifestly intended to convey the meaning that the members of the senior medical staff of both hospitals would have the first option of undertaking the educational work of the school.

Yours faithfully,

P. MICHELLI, Secretary.

J. Curnow, Esq., M.D., F.R.C.S., 9, Wimpole-street, Cavendish-square, W.

Dreadnought Seamen's Hospital, Greenwich, July 18th.

To the Editor of the Times.

PROPOSED SCHOOL FOR TROPICAL DISEASES.

SIR,—Sir H. Burdett in your issue of July 11th, writing of a proposed School for Tropical Medicine, states that "the teaching staff will consist of the senior medical staff of the *Dreadnought* Hospital at Greenwich, as well as of the Branch Hospital, together with a number of teachers specially selected and attached to the new school." This was the first intimation of any kind that we had that such a scheme was on foot, and the statement was made without our authority or consent.—Yours faithfully,

JOHN CURNOW, M.D., F.R.C.P., } Visiting
JOHN ANDERSON, M.D., F.R.C.P., } Physicians.
G. R. TURNER, F.R.C.S., Visiting Surgeon.

9, Wimpole-street, W., 25.7.98.

DEAR SIR,—I cannot accept your letter of the 21st inst. as a satisfactory explanation of the position. Sir Henry Burdett's statement that "the teaching staff will consist of the senior medical staff of the *Dreadnought* Hospital at Greenwich, &c.," is quite positive, and is an unauthorised statement. It will not convey to the readers of the *Times*, who I may point out are asked for subscriptions in aid of the committee's scheme, that it manifestly means "that the members of the senior medical staff of both hospitals would have the first option of undertaking the educational work of the school." Such an explanation should be publicly given in the *Times* by either Sir H. Burdett, who has apparently been misinformed, or by the committee.

As you have not answered my second question I must ask it again and I will put it in the following form. Has the committee decided to concentrate as far as possible the cases of tropical disease which alone give its distinctive character to the *Dreadnought* Seamen's Hospital at Greenwich, and has this course of action been determined on without consulting either Dr. Anderson or myself?

Faithfully yours,

JOHN CURNOW, M.D.

P. Michelli, Esq., Secretary, Seamen's Hospital Society.

Dreadnought Seamen's Hospital, Greenwich, S.E., 28th July, 1898.

DEAR SIR,—In reply to your letter of the 25th inst., it appears that you and your colleagues have already taken the most efficient method of undeceiving the readers of the *Times* by your letter explaining that the senior staff of the *Dreadnought* were not consulted on the question of their joining the educational staff before Sir Henry Burdett's letter was written to the *Times*, and that the statements therein were made without their authority or consent. It does not, therefore, seem that any good purpose could be served by reiterating the fact, even if the *Times* would accept a second disclaimer.

Your question with regard to the tropical cases at Greenwich is rather one for the committee than for me to answer,

and I will take care that your letter is laid before the Board at their next meeting.—Yours faithfully,

P. MICHELLI, Secretary.

J. Curnow, Esq., M.D., F.R.C.P., 9, Wimpole-street, W.

Oct. 10th, 1898.

DEAR SIR,—Referring to the proposed School for Tropical Medicine at the Victoria and Albert Docks and Mr. Michelli's letter of July 14th, we think our letter to the *Times* of July 20th was a plain statement of facts. We see nothing to regret on our part, and if there is any meaning in plain English, Sir Henry Burdett's words can have but one interpretation, i.e., that the senior staff of the *Dreadnought* were to be on the teaching staff of the proposed school.

On July 15th he wrote Dr. Anderson that his letter to the *Times* was written under instructions from the committee of the *Dreadnought*; a committee, we would remind you, who had not had the courtesy to let us know that such a scheme was on foot, still less to ask for our coöperation until some five days after the vice-president's letter appeared in the lay press and he had been asked for explanation by Dr. Anderson.

We beg to ask the committee, as Dr. Curnow has twice already asked the secretary, whether they have decided to concentrate the cases of tropical diseases at the Branch Hospital and have done this without consulting the visiting physicians of the parent *Dreadnought* Hospital.

It is impossible for us to give any answer to a request for coöperation until we have been put in full possession of the details of the proposed school.—Believe us, yours faithfully,

J. CURNOW.
J. ANDERSON.
G. R. TURNER.

The Chairman of the *Dreadnought* Hospital Committee.

Dreadnought Seamen's Hospital,
Greenwich, S.E., 17th Oct., 1898.

DEAR SIRS,—I am instructed to acknowledge the receipt of your letter of the 10th inst. which was laid before the general committee at their meeting on Friday last.

The committee regret that you still feel aggrieved by Sir Henry Burdett's letter which was published in the *Times* of July 11th.

They also much regret that you do not feel able to signify your wish to coöperate with them in carrying out the scheme of H.M. Secretary of State for the Colonies for the establishment in connexion with the society's Branch Hospital of a school for the study of tropical diseases.

The details of the scheme must necessarily remain open for consideration by the committee which will be appointed to manage the school.

I am, dear Sirs, yours faithfully,

P. MICHELLI, Secretary.

John Curnow, Esq., M.D., &c.
John Anderson, Esq., M.D., &c.
G. Robertson Turner, Esq., F.R.C.S., &c.

9, Wimpole-street, Cavendish-square, W.,
29th Oct., 1898.

DEAR SIR,—We beg to acknowledge the receipt of your letter of the 17th inst.

It is true we are aggrieved by the entirely unauthorised statement contained in Sir Henry Burdett's letter published in the *Times* of July 11th last; but we are still more so by the committee's want of courtesy in not asking the opinion of the senior medical staff of the *Dreadnought* Hospital at any time during the inception of their scheme before the letter was written, and for which lack of courtesy no apology has been offered or regret expressed.

The question as to the concentration of tropical cases at the Branch Hospital and consequent starvation of the parent hospital at Greenwich in its one distinctive feature has not yet been answered, although three times asked, and we press your committee for a definite reply upon this point, after the receipt of which we will not trouble them with further correspondence. We are, dear sir, yours faithfully,

JOHN CURNOW.
J. ANDERSON.
G. R. TURNER.

The Secretary, *Dreadnought* Seamen's Hospital,
Greenwich.

Dreadnought Seamen's Hospital,
Nov. 28th, 1898.

SIRS,—Not having received any reply to the question we pressed upon you in our letter of Oct. 29th last we are sending the correspondence that has taken place between us to the press for publication. In doing so we wish to remind you that we have performed the medical and surgical work of the *Dreadnought* Hospital for eighteen, ten, and seventeen years respectively. We are, Sirs, yours faithfully,

JOHN CURNOW.
J. ANDERSON.
G. R. TURNER.

To the Committee, *Dreadnought* Seamen's Hospital,
Greenwich.

THE USE OF THE ROENTGEN RAYS ON THE BATTLE-FIELD.

THERE was a large attendance at the Camera Club, Charing Cross-road, on the evening of Monday, Nov. 28th, when in simple language suited to a lay audience Major Beevor, R.A.M.C. (Surgeon-Major, Royal Scots Guards), demonstrated before the members of the club and their friends the result of x-ray work during the Afridi campaign. There never existed, he said, a braver set of men or more skilful artists with modern firearms than the Afridis, and consequently there was no lack of wounds for the surgeon's attention. It was not only bullets, however, that these men used as messengers of death, but, as Major Beevor pointed out in a previous lecture, all sorts of objects—pieces of telegraph wire, buttons, and, in fact, anything hard. The lecturer dwelt on the difficulty which attended the localisation and finding of foreign bodies in the animal organism, and remarked that though modern surgery had progressed greatly and chloroform had done a great deal towards the alleviation of human suffering he humbly maintained that of late years no invention had come to the fore in this respect so forcibly as that which was known as the x rays. To be able to localise, to find the size, and to operate directly upon a foreign body in the human organism by means of this invention was an incalculable benefit to both surgeon and patient.

The lecture took the form of a running commentary on a series of radiograms exhibited by means of the electric lantern, and without reproducing these pictures it is difficult to make the cases intelligible to our readers, but Surgeon-Major Beevor's remarks embodied some information of value to the medical profession and we pick out such items of interest as may have a useful bearing upon x-ray work and surgery.

In one case a bullet was shown embedded in the tissues of the popliteal space. This injury caused a great deal of swelling and irritation around the knee-joint. The bullet after striking the tibia lodged in the popliteal space a little above the condyles of the femur and could not be discovered by means of a probe. By the x rays it was found within an inch of the surface of the skin. Had not these rays been used it would probably have been necessary to amputate. The swelling was very marked and the radiogram showed to what an extent bones can be pushed apart and the supporting ligaments stretched by inflammation and irritation of a joint. The space between the femur and the tibia was greatly exaggerated and the patella was high up above the condyle of the femur, notwithstanding the fact that the leg was flexed. As showing the conditions under which operations have to be performed on the battlefield, the temperature at this time was about 110° F. in the shade, and there were about 400 men to look after and some 110 dead men to be buried. Another radiogram showed a bullet which had entered the inner side of the biceps. This could not be found by a probe, as it had slipped down into the sheath of the tendon and become embedded. So incorporated was it with the fibrous material that an hour and a half were occupied in dissecting it out. The superiority of the x rays over the probe in some cases was shown by the case of a man from whose instep four pieces of telegraph wire were removed. A small piece of flint was afterwards extracted and it was thought that the patient would recover. Three months later the man was about on crutches but he complained that he could not put his heel to the ground. On examination with the fluorescent screen it was found that a piece of bone was impacted in the periosteum beneath the heel. This could not possibly have been found with a probe. Another case shown was that of a sergeant of Sikhs, who was struck in the elbow while wearing a poshteen—a

garment made of goat-skin. If the weather is fine this coat is worn with the hair next the body, but if the weather is damp it is turned inside out and the hair worn outside so as to protect the leather from the wet. In this case the bullet carried into the muscles a mass of leather and hair, blood poisoning supervened, and the joint swelled to such an extent (some 12 in. in circumference) that it was impossible to find a foreign body with a probe. By the use of the x rays, however, the foreign body was located and finally removed. The man made a good recovery. The radiogram of an officer's hand was shown to demonstrate the fact that small quantities of a compound of lead, such as that incorporated in the material used for lead plaster, offer resistance to the x rays. The radiogram was taken while the hand was bandaged and the strips showed as distinct rings around the fingers. A radiogram of the leg of General Woodhouse was shown to illustrate the fact that not only bone but fibrous material will break up a bullet. It is interesting to note that while the bullet in this case was being extracted thirteen bullets passed through the tent in which the operation was being performed.

An interesting discussion followed in which Mr. Cadett, Mr. H. H. Massey, M.R.C.S.Eng., Mr. Inwards (late president of the Meteorological Society), the chairman, Mr. Wilson Noble, Mr. A. A. Campbell Swinton, Mr. Godfrey (the secretary of the Camera Club), and others joined. In this discussion it was suggested that light dynamos to be worked by hand power should be constructed for use on the battle-field and in military operations, that in some cases electric power might be obtained from ships of war; that chemists should direct their attention to the manufacture of sensitive plates more suited to x-ray work than the ordinary photograph plates, that the Wimshurst machine might be used, and that the Government should be asked to facilitate in every possible way the use of the Roentgen rays in military campaigns.

In his reply Major Beevor spoke of the uselessness of photographic films in hot climates and the difficulties attending transport of the apparatus. He mentioned that a dynamo for use by hand had been used in the Soudan and had proved fairly satisfactory. The Government of India had afforded him every facility for carrying on the work.

Hearty votes of thanks to the lecturer and to the chairman terminated the proceedings. Credit is due to Mr. Godfrey for his success in organising this gathering which greatly exceeded in numbers the ordinary attendance at the lecture evenings of the Camera Club.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

A MEETING of the Council of this Fund was held at the Mansion House on Monday, Nov. 28th. In the unavoidable absence of the Lord Mayor, the Bishop of Southwark presided.

The report of the Council for the year ending Oct. 31st, 1898, stated that the twenty-sixth year of collecting this Fund had resulted, under the presidency of the Right Honourable Sir Horatio D. Davies, K.C.M.G., M.P., Lord Mayor, treasurer, in a total of £40,397 2*s*. 10*d*. The Rev. C. J. Ridgeway, M.A., of Christ Church, Lancaster Gate, headed the list of contributions with £1,367; the Rev. Canon Fleming, B.D., of St. Michael's, Chester-square, collected £1268; the Rev. J. Storrs, M.A., of St. Peter's, Eaton-square, £681; the Rev. Prebendary Eardley-Wilmot, M.A., of St. Jude's, South Kensington, £623; and the Rev. F. E. Ridgeway, D.D., of St. Peter's, Cranley Gardens, £501. Sir Saville Crossley, Bart., again most generously contributed £500, a like sum of £500 being sent by him to "The Prince of Wales's Hospital Fund"; £300 were received from A. G. P.; "Delta" sent his twentieth donation of £200; and Mr. George Herring sent £200.

On the motion of Sir HENRY BURDETT the following resolution passed in committee was added to the report.

Resolved unanimously:—

That before proceeding to business and having this day heard of the death of their much-esteemed colleague Sir Stuart Knill, Bart. the committee desire to record their regret and request the secretary to convey to Lady Knill and her family their sincere sympathy and condolence.

Alderman Sir H. D. DAVIES, the late Lord Mayor, was elected to fill a vacancy on the Council. June 11th was recommended as the date on which to hold Hospital Sunday in 1899. The annual general meeting of the constituents of the Fund was fixed for Monday, Dec. 12th.

PUBLIC VACCINATORS AND THE NEW VACCINATION ACT.

AN IMPORTANT MEETING OF PUBLIC VACCINATORS AT MALTON.

ON Wednesday afternoon last a meeting of public vaccinators was held at Malton to take into consideration the remuneration which should be granted in urban and rural districts. Dr. William Colby, J.P., of Malton, was voted to the chair and there were also present Mr. Malvin (Scarborough), Mr. Scott (Thornton Dale), Mr. Stuart (Great Ayton), Mr. J. T. R. Miller (Malton), Mr. W. S. Sprent (Slingsby), Mr. Comber (Pickering), Dr. Glen and Dr. Fulton (Middlesbrough), Mr. Norris (Sherburn), Dr. Gramshaw (Stillington), Mr. Hine (South Cave), Mr. Todd (Selby), Mr. Wetwan (Bridlington), Mr. Haworth (Filey), Dr. Hope (Hutton-Buscel), Dr. Dougall (Welburn), Dr. McCracken (Coxwold), and Dr. Adams (Rillington).

Mr. SPRENT, who had convened the meeting, said that the result of his communication had been to get replies from every union in the North and East Ridings, while of 127 public vaccinators in the two Ridings he had received replies from 118 entering into details on the points to be discussed at the meeting. In cases where there was no representation the unions were in perfect accord with the object of that meeting and gave him authority for their support in certain resolutions. 75 per cent. of the public vaccinators seemed to be very strongly in favour of a mileage fee and against the minimum fee laid down by the Local Government Board. The Aysgarth Union suggested that the 1*s*. fee should be 2*s*. 6*d*., while they accepted the 5*s*. fee and suggested 1*s*. per mile after the first mile. At Helmsley and Pickering there was a feeling in favour of 1*s*. per mile. He had received private intimation that the committee of the Malton and Norton Boards were making an offer of 2*s*. instead of 1*s*. and 10*s*. instead of 5*s*., to be inclusive of all claims and to cover what might be termed abortive visits. As far as he could gather this was the most generous offer made hitherto by any board of guardians in England. In the Marylebone Union the fees agreed upon were 2*s*. 6*d*. and 7*s*. 6*d*. In Leyburn the minimum fee was suggested with 1*s*. mileage; Middlesbrough was quite in accord with this meeting, as also was Easingwold.

A debate followed, in the course of which it was freely stated that the 5*s*. fee for successful vaccination at home was too small, that the 1*s*. fee for the statutory visit was ridiculous, and that some system of payment by mileage was the only fair one. Mr. SPRENT moved the following resolution:—

That the fees of public vaccinators should be 2*s*. 6*d*. and 5*s*. in urban districts and 2*s*. 6*d*. and 10*s*. 6*d*. in the rural districts, these fees to cover all duties.

He thought in this way a settlement could be arrived at. In rural districts the loss on long journeys would be equalised by the cases nearer home.

The motion was seconded by Dr. GRAMSHAW and carried unanimously.

PUBLIC VACCINATORS AT NANTWICH AND THEIR FEES.

At the last fortnightly meeting of the Nantwich Board of Guardians held on Saturday, Nov. 26th, a motion was brought forward to confirm certain minutes of the finance committee, which minutes stated that after hearing Mr. William Thomson and Mr. A. E. Vaughan as a deputation the board decided that the minimum fees under the new Act should be the scale of payment for the public vaccinators of the union.

Mr. THOMSON, who was present, regretted this decision but said that the matter could not be settled by the public vaccinators or by the guardians except by mutual agreement. The public vaccinators would not be satisfied with the report of the finance committee if it were adopted by the board and in that case they would be obliged to bring the matter before the Local Government Board to decide. Among the reasons why the public vaccinators thought that

the minimum fees should be enlarged, Mr. Thomson enumerated the following. Public vaccinators, on receiving notice from the vaccination officers of any children who had not been vaccinated or whose parents had not received certificates of exemption from the magistrates, were required within fourteen days on the receipt of such notice to visit the homes of such children and to be prepared to vaccinate them where consent was given. The distance of the districts from the residence of the public vaccinators in the Nantwich Union averaged from four to six miles. His district extended on one side five miles and on the other side four miles. The public vaccinator, after at least twenty-four hours' notice to the parent, was required to visit the home of a child in order to vaccinate the child and the minimum fee for his visit would be 1*s.* according to the report of the finance committee; if sanctioned by the board of guardians and allowed to vaccinate a child he would receive a further fee of 5*s.* in the case of successful vaccination, but if unsuccessful he would receive nothing for his trouble except the visiting fee of 1*s.* Mr. Thomson then showed that the duties of the public vaccinators would be considerably altered under the new Act, so that it was reasonable to make fresh provision for their remuneration. The Act provided that a payment should be made of "not less" than 1*s.* for the visit and of "not less" than 5*s.* in respect of every primary successful vaccination or revaccination performed at the home of the person vaccinated. Only the minimum amount of each of the payments was fixed and, subject to this minimum, the precise sums to be paid might be settled by agreement between the guardians and the public vaccinators, to be approved by the Local Government Board. The inference was obvious, that whilst the minimum payments might be sufficient for small thickly populated districts they were not sufficient for large rural districts which were thinly inhabited. Hence the proposal that the payments should be increased according to distance.

A debate followed, in the course of which it was proposed to refer the question of the fees to be paid for public vaccination to the finance committee for further consideration. The motion to this effect was, however, lost, 15 votes being recorded against it and only 10 in its favour, the effect of which will be that the matter will now be brought before the Local Government Board by the public vaccinators.

PUBLIC VACCINATORS OF CARDIFF.

On Nov. 12th, it will be recollected, the Cardiff Board of Guardians passed a resolution by a majority of 14 to the following effect: "That the contracts with the present public vaccinators for town districts—viz., Messrs. T. G. Horder, Cardiff district; J. Treharne, Roath district; and John Evans, Canton district—be terminated by Jan. 1st and that a fresh contract be entered into for public vaccination in the town of Cardiff with one medical practitioner who shall devote the whole of his time to his duties under the contract." At a meeting of the board of guardians held on Nov. 26th the Rev. J. R. Buckley moved that this resolution be rescinded, a motion which after some discussion was carried by a majority of 23. Mr. Mildon then gave notice of a motion that the three public vaccinators be appointed for one year only under the new Act and that the whole matter should come up for reconsideration then, so that it is evident that the question has not reached a final settlement.

Without entering at present into the question as to whether it is better for a public vaccinator to be a practitioner who devotes the whole of his time to his vaccination duties or not it is quite evident that to dismiss three hard-working officials, some of whom have served the guardians for twenty years, at only six weeks' notice would have been monstrously unjust and we congratulate the Rev. Mr. Buckley on his success in carrying a motion which makes for fair play. We are glad to see also that a certain personal element in the discussion which at one time seemed likely to lead to unpleasantness was amicably set aside.

THE ROENTGEN SOCIETY.

A CONVERSAZIONE of the above society was held by invitation of the President and Mrs. Charles Mansell-Moullin on Nov. 21st at St Martin's Town-hall, London. There was a large collection of special apparatus and of Roentgen photographs, in the latter of which directions the chief medical interest naturally lay. Many varieties of Coils, Tubes, Localisers, Screens, Fluoroscopes, Stereoscopes, and Radiostereoscopes were to be seen, together with a Complete Hospital Outfit by Mr. Isenthal and an Apparatus for Testing the Grade of Rays by Professor Gladstone. The London Hospital was strongly represented by a complete Portable Outfit for Ward and General Purposes consisting of dark-room, operating-table, and all accessories, under the care of Dr. Hedley. Professor Silvanus Thompson demonstrated the action of the Tesla Oscillator upon Vacuum Tubes destitute of Electrodes. A rapidly alternating electric field was excited between two sheets of metal acting as poles of the oscillator, and any vacuum tube placed within that particular sphere of action exhibited luminous discharges. Professor Pepperdene lent a fine set of apparatus, including Rapid Mercury Breaks and Osmium and Osmium-iridium Tubes. Mr. Webster showed Mr. Herbert Jackson's Original Focus Tube and Mr. Wimshurst, F.R.S., one of his famous influence Machines. Mr. A. C. Swinton displayed a number of Experimental Tubes in which the size of the active point of generation of the rays could be accurately determined by a pin-hole Roentgen camera. Professor Gladstone, F.R.S., showed an apparatus for testing the grade of rays which attracted a good deal of attention. Among well-known makers who exhibited were Messrs. Apps, Watson Baker, Cox, Coxeter, Dean, Fuerst, Paxton, and Watson and Sons. A fine collection of Luminous Tubes was contributed by Messrs. J. F. Vezey, A. Cossar, and Gerard Smith. A feature of considerable attraction was the Wheatstone Stereoscope of Mr. Mackenzie Davidson, who showed thereby with wonderful exactness the position of bullets which had been embedded in bone at Dargai and other objects of interest.

A smaller hall was devoted to screen demonstrations with half-a-dozen large coils, and a side-room served as a screen room for demonstrations confined to medical visitors. The latter proved a great attraction. It was under the care of Mr. Frederick Fenton and Dr. Walsh, who showed several cases sent from the London Hospital, one a Wired Resection of the Elbow-joint and another a Congenital Absence of the Clavicles. On the whole it may be said that during the twelve months which have elapsed since the last conversazione of the society no great novelty has been introduced into the technique of Roentgen methods. At the same time the general standard of excellence has greatly advanced, especially in the definition of photographs—in other words, the conditions of exposure are becoming better known to individual workers. Of the many hundreds of photographs shown it will be possible to mention only a few of special excellence. Mr. J. H. Gardiner sent a collection of Radiographs of new and rare fishes from the interior of Africa showing the practical use of the rays in zoology. A good collection came from the London Hospital, taken by Mr. E. Harnack and Dr. Hedley. A number of surgical injuries were illustrated, as well as Thoracic Aneurysm, Charcot's Joint Disease, and other medical subjects. One photograph of a Pelvis showed the immensely magnified shadow of a Murphy's button, the large size whereof was due to the fact that when taken it was 6 in. from the sensitive plate and comparatively close to the focus tube. The photograph of Double Absence of Clavicles in a patient (shown in a screen room) was of great interest. Some remarkable Radiographs of Pelvic and other Bones from the Voltohm Company of Münich pointed to great future possibilities of the method. Mr. Ernest Payne contributed various fractures and diseases of bone, some of them displaying osseous texture with great clearness. Mr. Mackenzie Davidson sent some illustrations of his method of photographing renal calculus by fixing the abdomen. Mr. F. H Glew showed some excellent work, but in one case the close approach of the tube to a shoulder caused the record of the bones to have a magnified and somewhat distorted look. Mr. Poland exhibited a series of Injuries to Epiphyses, a good Ankylosed Knee, in which the direction of new cancellous lamellæ could be clearly traced, and a fine picture of a False Joint after Excision of the Hip. Dr. Hugh Walsham sent a number of Photographs of Pneumonia, Phthisis, Aneurysm, and other Morbid Conditions of the Chest. One of collapsed lung would repay careful study by the medical worker in the x rays. In another the lungs were shown to be clear and the diagnosis of phthisis suggested by the presence of a cough or by advanced disease in a brother was therefore dismissed. A great deal remains to be done in this field of medical diagnosis. Dr. Walsh showed a Hæmophilic Knee-joint in which the bones were enlarged and the whole joint was obscure when contrasted with the sound

side. He also showed a Child's Thorax with Seven Ribs Fractured (healed), and Dr. G. Carpenter's case of Absent Clavicles in a child, aged eight years, a rare condition which happily compared with Dr. Schorstein's in the London Hospital exhibit. Dr. F. H. Low had some excellent examples, including one of the few cases of Renal Calculus located by a Radiograph. Mr. Frederick Fenton exhibited a fine collection for Mr. Montague. They included various plates of a Coin in its passage through the Alimentary Canal; Fractured Olecranon fixed by a Screw; two Renal Calculi (excellent); and *s.* Patella the day before and the day after fracture. A most extensive set of Photographs illustrating almost every medical and surgical application of the rays came from Messrs. Allen and Hanburys. Mr. Noble Smith sent some good orthopædic subjects, including a full-length figure of Spinal Curvature built up in segments. Mr. Griffith Wilkin contributed a series showing how criminals might be identified by means of accurate measurements of bone made with the rays. Mr. Prosper Marsden had a good picture of a nine months Fœtus, and Mr. F. Glew one of another of five months. Other good pictures came from Dr. E. L. Mansel, Dr. G. M. Lowe (Lincoln), Mr. H. Coxeter, Dr. Wolfenden, Mr. Thomas Moore (hon. treasurer), Mr. Hall-Edwards, Mr. D. Boyd Keown, Dr. E. Greville, Dr. M. Barbour, and others. From the standpoint of pure artistic photography the honours were easily carried off by Messrs. Webster and Wilson Noble. The President may be congratulated on having brought together the finest collection of Roentgen photographs yet seen in this country.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5632 births and 3748 deaths were registered during the week ending Nov. 26th. The annual rate of mortality in these towns, which had been 17·3 and 17·1 per 1000 in the two preceding weeks, rose again to 17·4 last week. In London the rate was 16·7 per 1000, while it averaged 17·9 in the thirty-two provincial towns. The lowest rates in these towns were 11·3 in Croydon, 12·2 in Huddersfield, 12·3 in Cardiff, and 12·6 in Plymouth; the highest rates were 21·6 in Gateshead, 22·3 in Liverpool, 24·9 in Derby, and 26·1 in Wolverhampton. The 3748 deaths included 364 which were referred to the principal zymotic diseases, against 412 and 371 in the two preceding weeks; of these 83 resulted from measles, 82 from "fever" (principally enteric), 81 from diphtheria, 51 from whooping-cough, 48 from diarrhœa, and 19 from scarlet fever. No death from any of these diseases was recorded last week in Birkenhead; in the other towns they caused the lowest death-rates in Croydon, Burnley, Huddersfield, and Bradford, and the highest rates in Manchester, Liverpool, Sheffield, Halifax, and Swansea. The greatest mortality from measles occurred in West Ham and Manchester; from whooping-cough in Cardiff, Derby, and Gateshead; and from "fever" in Halifax and Sheffield. The mortality from scarlet fever showed no marked excess in any of the large towns. The 81 deaths from diphtheria included 38 in London, 10 in Leeds, 7 in Liverpool, 6 in Sheffield, 4 in Leicester, 3 in Portsmouth, and 3 in Swansea. No fatal case of small-pox was registered during the week under notice, either in London or in any other of the thirty-three large towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 3162, against numbers increasing from 2178 to 3259 at the end of the thirteen preceding weeks; 234 new cases were admitted during the week, against 318, 340, and 319 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 248 and 285 in the two preceding weeks, declined again last week to 280, and were 145 below the corrected average. The causes of 55, or 1·5 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Leicester, Manchester, Newcastle-upon-Tyne, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, and Bradford.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks from 18·9 to 19·5 per 1000, further rose to 19·7 during the week ending Nov. 26th, and exceeded by 2·3 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 11·9 in Perth and 15·2 in Paisley to 21·3 in Edinburgh and 22·6 in Aberdeen. The 595 deaths in these towns included 25 which were referred to diarrhœa, 19 to whooping-cough, 11 to "fever" (principally enteric), 10 to measles, 5 to diphtheria, and 3 to scarlet fever. In all, 73 deaths resulted from these principal zymotic diseases, against 86 and 70 in the two preceding weeks. These 73 deaths were equal to an annual rate of 2·4 per 1000, which was 0·7 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 11 and 9 in the two preceding weeks, rose again to 19 last week, of which 12 occurred in Glasgow, 3 in Edinburgh, and 3 in Dundee. The deaths referred to different forms of "fever," which had declined from 18 to 14 in the three preceding weeks, further fell to 11 last week, of which 7 were recorded in Glasgow and 2 in Edinburgh. The 10 fatal cases of measles exceeded by 4 the number in the preceding week, and included 4 in Glasgow and 4 in Edinburgh. The deaths from diphtheria, which had been 11 in each of the two preceding weeks, declined to 5 last week, of which 3 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 129 and 130 in the two preceding weeks, were 128 last week, and slightly exceeded the number in the corresponding period of last year. The causes of 39, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 30·0 and 27·7 per 1000 in the two preceding weeks, rose again to 31·0 during the week ending Nov. 26th. During the past four weeks the death-rate in the city has averaged 28·4 per 1000, the rate during the same period being 16·4 in London and 20·0 in Edinburgh. The 208 deaths registered in Dublin during the week under notice showed an increase of 22 upon the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 22 and 9 in the two preceding weeks; of these, 6 resulted from diarrhœa, 5 from whooping-cough, 4 from scarlet fever, 2 from "fever," and not one either from small-pox, measles, or diphtheria. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 1·4 in London and 2·3 in Edinburgh. The deaths from whooping-cough, which had been 4 and 2 in the two preceding weeks, rose again to 5 last week. The 4 fatal cases of scarlet fever exceeded the number recorded in any week since April last. The deaths referred to different forms of "fever," which had been 5 and 4 in the two preceding weeks, further declined to 2 last week. The 208 deaths in Dublin last week included 29 of infants under one year of age and 62 of persons aged upwards of sixty years; the deaths of infants showed a marked further decline, while the deaths of elderly persons considerably exceeded those recorded in any recent week. Ten inquest cases and 7 deaths from violence were registered; and 76, or more than a third, of the deaths occurred in public institutions. The causes of 5, or more than 2 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

STAFF-SURGEON ALFRED HENRY MILLER has been promoted to the rank of Fleet-Surgeon in Her Majesty's Fleet. The following qualified candidates for the Naval Medical Service have been appointed Surgeons in Her Majesty's Fleet:—John Boyan, William Henry Daw, Cyril Shepherd, Hugh Leigh Norris, Adrien Andrew Forrester, James Midleton Graham Swainson, John Stoddart, James Aquilon Forrest, Warren Guy Westcott, Francis John McKenna, Fairman Rackham Mann, William Wallace Keir, Edward Charles Sawdy, Percy Hooper Bannister, Richard Sidney

Osborne, Mervyn Winfred Falkner, Edward Oliver Bamford Carbery, John Kimber Raymond, and Henry William Melville Lees.

The following appointments are announced:—Fleet-Surgeon Henry W. D. Walsh to the *Sans Pareil*. Staff-Surgeon Robert Hickson to the *Rupert*. Surgeons: Edward Haines to the *Camperdown;* Henry R. Gardner to the *Victory*, for Haslar Hospital; George A. S. Bell to the *Victory*, additional for the *Duke of Wellington;* Herbert H. Pearse to the *Defiance;* and Walter H. S. Stalkart to the *Vernon*. Surgeon and Agent: Charles J. Bernard at Skegness.

ROYAL ARMY MEDICAL CORPS.

Major Thompson embarks for Bombay. Major Hall takes over charge of the Station Hospital, Lydd. Lieutenants Mainprise and McCarthy are posted to Western Heights, Dover, for duty. Major Culling takes over charge of the Station Hospital, Western Heights, Dover, from Major Forman. Majors Woods and Matthias are proceeding to Malta in the transport *Jelunga*. Lieutenant Cowan is posted to the Station Hospital, Belfast, for duty. Major Dorman and Lieutenant Carter embark for service in India shortly.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Captain (temporary) Major Hardy, 2nd Infantry, Hyderabad Contingent, are placed temporarily at the disposal of the Government of Bombay for employment on plague duty. The services of Captain Lumann are placed temporarily at the disposal of the Foreign Department for employment on plague duty in Mysore. The services of Captain Close (Bengal) are replaced at the disposal of the North-Western Provinces and Oudh. The services of Major French (Bengal) are placed temporarily at the disposal of the Government of the North-Western Provinces and Oudh. Lieutenant-Colonel Murray (Bengal) is confirmed in the appointment of Professor of Surgery, Medical College, Calcutta, and *ex-officio* Surgeon to the College Hospital.

THE FEBRUARY COMPETITIVE EXAMINATION FOR THE ROYAL ARMY MEDICAL CORPS.

There will be 24 commissions to be competed for at the next examination for the Royal Army Medical Corps in February next, and we think that the young medical men who are physically fit for medical service, especially such of them as have a taste for travel and a military life, might do well to turn their attention to the advantages which that service offers. In the first place, the pay is regular and sufficient, with reasonable economy, to live upon; a medical officer has the society of officers and gentlemen, and if he is a cultured and agreeable man and fond of his profession he will be heartily welcomed and trusted and make many and lasting friendships; with ordinary care and attention he is sure of promotion and pension on retirement, and with energy, ability, and fair luck he will probably have opportunities for distinction and every chance of being selected for promotion to the upper ranks. As we have previously stated, it is only right and fair to say that Lord Lansdowne has done his best to put the Army Medical Service on a good footing and has, as far as is practicable and present circumstances admit, fulfilled the requirements of medical officers. Under these circumstances we are consequently of opinion that the newly instituted Royal Army Medical Corps merits the attention of young medical graduates and qualified men, and intending candidates would do well to make themselves acquainted beforehand with the regulations as to the physical and professional qualifications required.

THE ARMY MEDICAL RESERVE.

In the opinion of Surgeon-General J. B. Hamilton, the Army Medical Reserve "is a mere paper army, a mockery, a delusion, and a sham." This is plain speaking with a vengeance, but it is impossible to deny that there are grounds for the indictment. As at present constituted the Army Medical Reserve would not be of much use in a national emergency. Military medical work has to be learnt practically under good and experienced teachers. An untrained medical man would at first be more or less of an encumbrance in the field. Whilst he was engaged in learning his duty the force would suffer. No doubt the War Office authorities are perfectly well aware of what is required and will take the necessary steps to set matters right, but now that the needs of the Royal Army Medical Corps have been attended to it would be well if they were to exhibit a little extra energy in dealing with the Army Medical Reserve. It is not too much to say that under existing circumstances it would be impossible for the medical department of the Army to act efficiently in a considerable campaign such as lately seemed to be within a measurable distance.

THE VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

Lieutenant-General Sir George White, V.C., G.C.B., G.C.S.I., &c., Quartermaster-General to the Forces, will present the prizes to the members of the Volunteer Ambulance School of Instruction at St. Martin's Town Hall, Charing-cross, on Wednesday, Dec. 14th, when there will be the usual ladies' night. A large number of the ommanding officers of the Yeomanry and Volunteer Corps of the Home District have expressed their intention of being present. In addition to Sir George White, Lieutenant-General G. H. Moncrieff, Surgeon-General W. Taylor, C.B. (recently Principal Medical Officer to the Khartoum Expedition), Colonel V. Hatton, C.B., and the officers of the 1st Battalion the Grenadier Guards will be the guests of the school. Application for tickets for the Bohemian entertainment should be made to the Mess President, 8, Portman-street, W.

THE TITLES OF RETIRED MEDICAL OFFICERS.

There seems to be a general desire that the new titles conferred by the recent warrant for the constitution of the Royal Army Medical Corps should not be simply restricted to those retired medical officers who are liable to recall, but extended to all medical officers who retired when the compound titles were in force. With a view to the simplification of the titular nomenclature employed and to the inclusion, as far as practicable, of medical officers in one and the same corps—that of the Royal Army Medical Corps—the desire seems to be a reasonable one under the circumstances.

ARMY MEDICAL SERVICE VACANCIES IN DECEMBER.

Surgeon-General A. A. Gore vacates the appointment of Surgeon-General of Her Majesty's Forces and Principal Medical Officer in India. As already announced in THE LANCET Surgeon-General Gore will be succeeded in his appointment by Surgeon-General Taylor, C.B. Colonel F. B. Scott, R.A.M.C., M.D.Glasg., C.M.G., retires on Dec. 9th.

THE QUEEN AND THE WOUNDED SOLDIERS FROM THE SOUDAN.

It is stated that the Queen intends to visit Netley Hospital to-morrow (Saturday) to personally inquire into the cases of the wounded from the Soudan. The visit will be a private one and Her Majesty is expected to arrive at Netley by special train from Windsor at 3 P.M.

DEATHS IN THE SERVICES.

Surgeon-General A. Smith, C.B., honorary physician to the Queen, aged seventy-four years, at his residence, South Kensington, on Nov. 25th.

Correspondence.

"Audi alteram partem."

"FEES TO PUBLIC VACCINATORS."

To the Editors of THE LANCET.

SIRS,—I doubt whether it is fully realised yet what are the duties demanded from public vaccinators under the so-called birth registration fee which has been fixed at a minimum of 1*s.* by the Local Government Board. The wording of this provision is misleading at first sight. It is in no way analogous to the birth registration fee allowed to vaccination officers and is by the various exceptions reduced to such cases only as come under the care of the public vaccinator. For this fee let us see what will be required of us. It will entail at least three, and probably more, of the following duties. 1. Notice of visit and postage. 2. Visit by appointment offering vaccination. 3. Examination of child as to health, the presence of fever, disturbed bowels, and eruptions on any part of body being especially noticed. 4. Postponement certificate to vaccination officer and postage. 5. Inquiry regarding recent exposure to infectious diseases, or prevalence of erysipelas in neighbourhood. 6. Postponement

certificate of such cases to vaccination officer and postage. 7. Notice to medical officer of health *re* existence of such and postage. 8. Examination of sanitary state of house, the complete duties of an inspector of nuisances thus devolving on us. 9. Postponement certificate to vaccination officer if insanitary state exists and postage. 10. Certificate (Form P.) to medical officer of health and postage. 11. Indefinite number of visits and certificates of postponement from any of above causes and postage thereof. [This is clearly intended by the title of the fee indicating that only one such fee is recoverable for each birth registered and by the wording of clause (2) in first schedule "Form of vaccination contract"—viz., "and if his offer is accepted the public vaccinator will thereupon (*or after such postponement if any as may in his opinion be necessary*) so vaccinate the child."] 12. Notice to vaccination officer of refusal of parents to allow vaccination and postage. 13. In case of insusceptibility 3 or 4 visits and 2 or 3 operations under aseptic precaution. 14. Certificate of insusceptibility to vaccination officer and postage. 15. Record in register of each unsuccessful operation.

Here, then, is what is involved in that innocent-looking item under birth registration fee, the minimum fee of which is 1*s.* I have also drawn out a list of possible duties required under the vaccination fee, but will not trouble you with the details. One which does not appear to be an improbable issue in these days is that of our having to meet an action lying against us for evil consequences resulting from real or supposed neglect in the performance of the operation or in the examination of the sanitary state of the house previously to our having vaccinated the child.

I am, Sirs, yours faithfully,

F. LORIMER HART,
Public Vaccinator for Lewisham.

Sydenham, S.E., Nov. 26th, 1898.

To the Editors of THE LANCET.

SIRS,—In reply to "Public Vaccinator's" letter in THE LANCET of Nov. 26th may I be allowed to say that the public vaccinators of the Bootle Union, Cumberland, met the guardians last Saturday. We had agreed beforehand to ask 1*s.* a mile over one mile and that this should be paid whether the child was vaccinated or not. I was called before the guardians first to put our wishes before them. After talking the question over for some time I was asked to leave the room and when called in again I was informed that they would only pay for successful vaccination and not mileage, as the Local Government Board would not allow any other arrangement, the clerk especially being very strong on the difficulty of checking the mileage and the disputes which it would cause. They then offered me 5*s.* per case for the urban portion of my district—size, 1311 acres; births, 1898, 356. For the rural portion—population, 1891, 2072, extending about five miles one way and eight miles the other, 11*s.*; for an outlying portion, about twelve to twenty miles from my house, population 279, 25*s.* I accepted this with the understanding that I might apply again in a year or two, and finding I could not get mileage from the urban district. Dr. Cass of Ravenglass, a small village, whose district runs about twelve miles—population in 1891, 2198—got 12*s.* 6*d.* per case; Dr. Hudson of Bootle, a similar village, with the workhouse, and extending about eight miles, with a population in 1891 of 1453, got 9*s.* 6*d.* per case, the registration fee of 1*s.* in all cases to be extra. I hope this information will be of some use to other public vaccinators, and if I can give them any further information I shall be glad to do so by letter or through THE LANCET, with your permission. I should like to have your opinion on the terms we obtained.

I am, Sirs, yours faithfully,

P. BUTLER STONEY,
Public Vaccinator, Millom District, Bootle Union, Cumberland.

Nov. 28th, 1898.

"A CASE OF DEATH FROM DIABETES MELLITUS, IN WHICH THAT DISEASE GAVE NO PREMONITORY SYMPTOMS."

To the Editors of THE LANCET.

SIRS,—A case is recorded in THE LANCET of Nov. 26th under the above heading which, I think, requires a passing word. As it stands it is calculated to give rise to disquietude of a somewhat grave nature. A woman, aged sixty-eight years, in a previously good state of health, suddenly fell down in a comatose condition, which persisted till death twenty-six hours afterwards. The urine and fæces were voided at the commencement of the attack and no urine was at first obtainable for examination. About twelve hours later urine was drawn off by catheter and found to be of specific gravity 1023 and to contain a slight trace of albumin and 16 per 1000 of sugar. From this it is concluded, notwithstanding the total absence of any symptom of diabetes previously, that the attack consisted, not of an apoplectic seizure, but of diabetic coma. The proposition to be confronted is that a person may go about without manifesting the slightest symptomatic indication of the existence of diabetes and then suddenly fall down in a state of profound coma rapidly passing on to a fatal termination. I venture to think that if urine had been obtainable at the commencement it would have been found to be free from sugar. The urine which was examined agreed with that of transient glycosuria instead of with that of true diabetes, and such glycosuria is a well-known accompaniment of an apoplectic seizure.

I am, Sirs, yours faithfully,

Grosvenor-street, W., Nov. 30th, 1898. F. W. PAVY.

THE "PRIVATE SURGEON."

To the Editors of THE LANCET.

SIRS,—Might I be allowed to suggest to the executives of the various "medical defence societies" that it is their duty when a person is charged with a criminal offence and describes himself as a medical man without a legal right to such a dignity to immediately correct these misstatements in the daily press? The frequency of such incidents is calculated to bring discredit on our profession.

I am, Sirs, yours faithfully,

HENRY DUTCH, M.D. BRUX., M.R.C.S. ENG.

Berkeley-street, W., Nov. 27th, 1898.

*** We have lately read the amusing details of a complicated case of roguery said by nearly all the lay accounts to have been committed by a "private surgeon." This is exactly a case in point.—ED. L.

"THE DIPLOMA IN SANITARY SCIENCE OF THE ROYAL UNIVERSITY OF IRELAND."

To the Editors of THE LANCET.

SIRS,—Every graduate or licentiate of the Irish universities or licensing bodies must sympathise with Dr. C. L. Birmingham and Dr. J. E. O'Connor in their objection to the style and title of the sanitary science diploma in the Royal University of Ireland. Surely by a "Diplomate in Sanitary Science" the general public would understand a sanitary inspector who was, perhaps, also a registered plumber or had got a certificate in—if I may use the expression—"hygienic first aid." A year ago the committee of the Conjoint Irish Colleges of Physicians and Surgeons changed the style and title of their "Diploma in State Medicine" to that of "Diploma in Public Health and State Medicine," and in the case of the Royal University of Ireland a similar step ought to be executed with equal facility. The examination for the Diploma in Public Health formerly held by the Royal College of Surgeons in Ireland is now replaced by that held by the Conjoint Colleges of Physicians and Surgeons and is certainly of an average standard with the majority of the Public Health examinations of the United Kingdom.

I am, Sirs, yours faithfully,

MAURICE MCELLIGOTT, L.R.C.P. & S. Irel.,
D.P.H. (Irish Conjoint).

Belper, Nov. 28th, 1898.

To the Editors of THE LANCET.

SIRS,—Dr. J. E. O'Connor is in error when he states in THE LANCET of Nov. 26th that "the Royal College of Surgeons is the only body in Ireland granting a D.P.H." For many years the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland have each granted such diplomas, and about eight years ago these two Colleges united in conferring a conjoint diploma in State medicine which appears to stand well in public estimation if we may judge

by the number of applicants who present themselves, notwithstanding a very severe standard of examination. The University of Dublin also has for many years granted a similar diploma which has a very high reputation.

I am, Sirs, yours faithfully,

F. J. B. QUINLAN.

Lower Fitzwilliam-street, Dublin, Nov. 28th, 1898.

"THE STATE SERVICE IN ST. PAUL'S CATHEDRAL."

To the Editors of THE LANCET.

SIRS,—Your correspondent, Dr. Angus Campbell,[1] is troubled in his mind that he sees that bugbear of the medical profession "Advertisement" stalking at large at the yearly service of the Guild of St. Luke. Is it not time that someone asked the question, Why should medical men be so hypersensitive as to taboo any mention of their brethren in the public press? Can anything be more absurd to suppose that our profession is "lowered in the eyes of the intelligent" because a large number of medical men attend the service in state at St. Paul's? Where is the mysterious law written that is supposed to decree that medical men are to shun all publicity and live in seclusion, only to appear if accident discovers them? Why should not your correspondent also attack the guests at the Lord Mayor's banquet to the medical profession for "advertising," because their names appeared in the daily press? Is the Harveian lecturer guilty of "advertisement" because his name is quoted in the newspapers? Is the physician who speaks on some social subject at a public meeting "advertising" because the press report his remarks and do not ignore his name? The fact is there is a growing general interest in medical matters, and as a consequence in medical men. The public press therefore supplies any medical news that is likely to interest readers. I fail to see any cause for regret in this growing interest, but regard it rather as a subject for congratulation. If a surgeon performs successfully some new operation, why should not humanity be at once informed and the fortunate operator be publicly accorded the credit which is due to him? Why should acknowledgment be delayed as long as possible? Why should it be considered unfair to others that he should immediately gain thereby?

Not long ago we had the spectacle of a well-known politician accused of the infamy (?) of "advertising" because he mentioned in an interview that he was also a medical man and showed how hard he worked to do his double duty. Could anything be more preposterous than to accuse such a man of "advertising"? The question of signing bulletins is another point which has attracted adverse criticism. On what grounds does anyone object to the appended names? If the fact be an advertisement why should it be begrudged to those concerned by others less fortunate? Dr. Angus Campbell quotes the Scriptures against the Guild of St. Luke. Let its members retort with equal appropriateness from the gospel of their Patron Saint: "No man when he hath lighted a candle putteth it in a secret place, neither under a bushel, but on a candlestick, that they which come in may see the light."

I am, Sirs, yours faithfully,

Nov. 25th, 1898. FREDERIC VICARS, M.D. Brux.

"GOUT; ITS PATHOLOGY AND TREATMENT."

To the Editors of THE LANCET.

SIRS,—I should not ordinarily venture to make any comment on the extremely kind review of my book on "Gout; its Pathology and Treatment," published in your issue of Nov. 26th, were it not that in the interests of my professional brethren as well as of individuals suffering from gout I think it desirable to call attention to a sentence the context of which is not made quite clear in the review. In referring to the treatment of gout as dealt with in my book the reviewer states that "a mixture of 30 gr. of chloride of ammonium and 15 minims of dilute nitro-hydrochloric acid is also advisable." I think the inference drawn by a reader of the review would be that this is the treatment, or part of the treatment, of acute, subacute, or chronic gout as advised by me. Such, however, is not the case. The clause referred to is taken from p. 220 of the book and a reference to that page will show that such a medicine is specifically advised as part of the treatment of gouty glycosuria and gouty diabetes. I should not think of advising the use of such a mixture in the treatment of acute or subacute gout.

I am, Sirs, yours faithfully,

Weymouth-street, W., Nov. 28th, 1898. ARTHUR P. LUFF.

[1] THE LANCET, Nov. 12th, 1898, p. 1293.

"INJECTION OF SALINE SOLUTION IN SHOCK."

To the Editors of THE LANCET.

SIRS,—In my article on this subject published in THE LANCET of Nov. 26th, at the foot of the first column of page 1390 there occurs an error due to an oversight when correcting the proof. I appear as stating that "a teaspoonful of common salt to a pint of water makes 1 in 875"; it should have been 6 in 875, which is near enough to 6 in 1000 for all practical purposes.

I am, Sirs, yours faithfully,

Liverpool, Nov. 29th, 1898. W. THELWALL THOMAS.

THE CONSCIENTIOUS OBJECTOR.

To the Editors of THE LANCET.

SIRS,—May I suggest that magistrates should have some uniform tabulated list of questions for the above—something like the following, for instance: 1. How many cases and what authorities have you read on the subject? 2. How many cases of vaccination have you seen? 3. How many cases of small-pox have you seen? 4. On what ground have you formed your objections? 5. As you are such a conscientious man, have you any regard for the feelings of your neighbours who on good ground differ from you in opinion and have equally strong conscientious objections to small-pox? 6. Do you plead ignorance or obstinacy? The magistrates may thus possibly be able to satisfy themselves as to the conscience of the objector.

I am, Sirs, yours faithfully,

W. WOODWARD, M.D. St. And.,
Late Public Vaccinator to Worcester District.

Worcester, Nov. 11th, 1898.

"VITALITY."

To the Editors of THE LANCET.

SIRS,—Dr. Beale says: "It would not be profitable just now to discuss what happened many millions of years ago," but as the question is, Can life proceed from non-living matter and forces? and as there was a time when this earth consisted of these only, one would like to know how Dr. Beale explains the first appearance of life upon it. Believers in abiogenesis give an explanation, whatever it may be worth; Dr. Beale gives none. One hopes that what at present is merely a belief may some day, by experiments similar to Dr. Bastian's, become a demonstrable truth; but until living things have been produced from non-living in the laboratory abiogenesis must remain a pure matter of *belief* and quite outside physiology—like belief in a resurrection of the body and a future life. All we can assert at present is that, however life and mind may have originated, we know them only as associated with matter and cannot conceive them as separate and independent.

Dr. Beale asserts that growth or increase in living things is always by addition to their centres, in non-living things to their superficies, so that the latest deposit is always innermost in the former and outermost in the latter, or, as we may say, growth is endogenous and exogenous respectively. But in such living things as trees we find one mode of growth or increase in endogens and the opposite in exogens. He also says: "There is no analogy between growth by aggregation or accretion and growth in living things." In the growth of Mount Vesuvius and that of an oak tree I see a great similarity; in the former the molten lava rises from base to apex, flows over the crater and down the mountain, giving it a new layer; in the oak tree the sap rises from base to apices and streams down its branches and stem, adding a new ring of wood every year to the outside of that of the previous year. Lastly, Dr. Beale

says that the term evolution "must be restricted to the living world"; but would geologists, astronomers, and chemists admit this? could they not point to many evolutions of non-living things? and what is this earth of ours to-day but one vast evolution from chaos into cosmos?

I am, Sirs, yours faithfully,

D. HOOPER, M.B. Lond.

Trinity-square, S.E., Nov. 27th, 1898.

THE GENERAL MEDICAL COUNCIL: A CORRECTION.

To the Editors of THE LANCET.

SIRS,—In your report in last week's issue of one of the inquiries heard before the General Medical Council it is stated that I said "that the practice [of the Council] had been ever to consider the neglect of patients, and neglect of patients came within Section 29 of the Medical Act." This is an error. My statement was to the contrary effect. What I stated to the General Council was that in my experience neglect of patients had *never* been considered by the Council as a subject matter of inquiry under the disciplinary jurisdiction established by Section 29 of the Medical Act, 1858. The point is an important one, and I venture therefore to ask you to insert this correction.

I am, Sirs, yours faithfully,

Temple, E.C., Nov. 28th, 1898. M. MUIR MACKENZIE.

THE WORKMEN'S COMPENSATION ACT AND CERTIFICATES FROM HOSPITALS.

To the Editors of THE LANCET.

SIRS,—The Board of Management of this hospital have desired me to inform you, as a matter of possible interest to your readers, that in reference to the new Workmen's Compensation Act they have, in accordance with the recommendation of the honorary medical staff, passed the following provisional resolution: "That a fee of 10*s.* 6*d.* be charged for filling up certificates in connexion with the new Act, and that for the present the hospital residents be responsible for the certificates and retain the fee."

I am, Sirs, yours faithfully,

POOLE GABBETT,

Nov. 26th, 1898. Secretary, Norfolk and Norwich Hospital.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

To the Editors of THE LANCET.

SIRS,—Will you allow me to draw the attention of all members of the profession to the advertisement relating to the College and Polyclinic in your issue of this week? The College will commence work towards the middle or end of January and the coöperation of all interested in making London the centre for post-graduate teaching of the empire is cordially invited. We have lagged too long behind other countries, but we now hope to make up for lost time.

I am, Sirs, yours faithfully,

c. 1st, 1898. J. FLETCHER LITTLE, M.B., Hon. Sec.

"THE REJECTIONS AT THE EXAMINATIONS FOR THE SERVICES."

To the Editors of THE LANCET.

SIRS,—May I ask why you include Aberdeen University in your list of the bodies whose candidates show a heavy percentage of failures at the above examinations when your own report of the proceedings of the General Medical Council shows that Aberdeen had three candidates and three commissions? I believe that my old *alma mater* has always had a fair amount of success at these examinations.

I am, Sirs, yours faithfully,

Nov. 26th, 1898. M.D. ABERD.

*** Peccavimus.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Commission.—A Pasteur Institute for Hyderabad.—The Decline in the Plague Epidemic.

THE composition of the Plague Commission as well as the objects for which it is said to have been appointed have given rise to considerable comment. A pertinent question was asked in one of the leading Indian papers, "How was it that in the estimation of the Secretary of State the whole body of the Indian Medical Service were disqualified from taking part into the inquiry into plague in India?" The explanation of this may be that an independent investigation for many reasons is most desirable. It is impossible that officers in the Indian Medical Service could approach the administrative side of the subject with anything like a free hand. Themselves officials, they might be calling in question the dicta of their superiors and advisers of the Government—a position impossible with any safety. What is to be wondered at is that the Indian Government has not long ere this appointed a commission or committee of investigation from the officers of the Indian Medical Service into the scientific aspects of the question. One may legitimately ask whether the appointment of this commission is the reply of the Government to a petition for a Plague Congress asked for by the Bombay Medical and Physical Society. It is known that the idea of the congress was very favourably received by the Government of Bombay, but of course such a congress would have no official weight and the Commission may to a certain extent take the place of it. The objects of the Commission have been previously reported, but the exact scope of the inquiry is not very clearly defined. If the purely scientific and medical aspects of plague are to be worked up then the two civilians are out of place, and there seems no reason why two officers in the Indian Medical Service should not have been appointed in their stead. It is remarkable that the services of the so-called Imperial bacteriologist should not have been utilised. For the post of secretary it might have been anticipated that someone within the Bombay Presidency, where plague has almost exclusively raged, might have been selected. This officer, however, has been brought from Simla. If, on the other hand, the administrative work of the past is to be considered with a view to better order in the future, then bacteriologists are not required so much as men like Sir Richard Thorne, Dr. Parsons, and others, who are accustomed to deal with the investigation of outbreaks of infectious diseases. For experimental work pure and simple assistance could have been obtained from men in India. All the energies of the service seem to have been spent in disinfection, isolation, segregation, and quarantine, with little or no provision for original investigation. Even prophylactic inoculation has had very little encouragement, and although its value has been shown by late statistics the nature of the fluid used stands practically where it was nearly two years ago. If any spirit for investigation had been fostered we might have had by this time an attenuated culture instead of a mere dose of toxin, or we might perhaps have discovered a vaccine. It is not known how long the protection of prophylactic inoculation lasts and the fluid still remains very far from being properly standardised. Again, the incubation period of plague is still unknown and upon the duration of the infection there are very vague opinions and nothing has been definitely established. Towards the discovery of a curative serum, again, nothing apparently has been done.

The Nizam's Government has sanctioned the immediate construction of a complete and thoroughly equipped Pasteur Institute for Hyderabad. It will adjoin the hospital and medical school and will be available in about six months for patients.

The record of plague for the past week is 5907 cases and 4388 deaths. There has been a great increase at Satara but a decrease elsewhere. In Bombay the cases have declined to 92 and the reported deaths during the past week are only 66. In the Madras Presidency there were 22 seizures and 16 deaths and in the Mysore province 529 seizures and 332 deaths. Inoculation is still being carried on at Dharwar and Bangalore with great popularity and the results are reported to be striking.

Nov. 11th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Manchester Royal Infirmary.

DISCUSSION as to the future of the Manchester Royal Infirmary is now in full tide. A meeting of the trustees was held on Nov. 24th, under the presidency of Lord Derby, to consider the proposal of the board of management, set forth in a report dated June last, for rebuilding the infirmary on its present site. Mr. E. S. Heywood, chairman of the board, brought forward a motion which was seconded by Sir J. W. Maclure, approving the report and reaffirming the decision as to the rebuilding. An amendment was moved by Sir William Houldsworth referring the report back to the board with a request to them to reopen negotiations with the corporation with a view to the sale of the site on terms advantageous to the institution and ensuring the retention of an accident and out-patient department in the centre of the town. Arguments often heard before, sentiment and old associations—not to be esteemed too lightly—as well as convenience, were urged in favour of rebuilding the infirmary on the present site, although by many it is considered much too cramped even with the addition at great cost of some adjoining land which might possibly be obtained. For it must be remembered that practically the board are debarred from covering any more of the present ground although perhaps legally they might do so as the town insists on the unoccupied land being kept as an open space. In addition to want of room there is in the present position of the infirmary a disadvantage from the constant noise all day and almost all night from the surrounding streets. Sir William Houldsworth said that if it were decided to rebuild the infirmary on the present site the trustees would have to consider very carefully where the funds were to come from, whereas if the entire area were sold they would be provided with a fund for rebuilding elsewhere. Unhappily the trustees are in the Tantalus-like position of possessing a property valued twenty-three years ago at over £770,000 which cannot be utilised so long as the infirmary remains where it is. Some time ago it was proposed to sell part of the area to the corporation for £286,000, so that the streets around might be widened while the building was to be left much as it is at present; but that scheme, extravagant for the town and bad for the infirmary, was wisely abandoned. The idea was to retain the present building as a receiving house and out-patient department, but so large a building as the present one would not be required for that purpose. Putting aside sentiment, it seems to many that on the whole the interests of the infirmary—i.e., of the patients—would be best served by the sale of the whole area which would provide funds for an out-patients' department and a receiving house for emergencies of, say, 50 beds, in a convenient situation in the centre of the town but not on the present site, and also for a well-equipped hospital with a sufficient number of beds—say 500—in one of the suburbs. It would be fortunate for the town if it could obtain the infirmary area, as a site is badly wanted for a free library and art gallery, but the question of cost comes in. The corporation feel rather poor just now, having had to expend large sums of late which have not as yet begun to pay a sufficient return, so that if the infirmary square is to be bought some concession as to price may have to be made, provided only that the principle is maintained on which Sir Wm. Houldsworth thinks the sum ought to be assessed. He thinks it should be adequate to rebuild a larger and a complete infirmary; to provide an accident and out-patient department equipped in the best possible manner in the centre of the city but not on the present site, and to cover the maintenance of the two establishments. His amendment was carried, but a poll of the trustees was asked for by Dr. Renaud and it will be taken at a date not yet fixed, so the matter is still in abeyance. When the infirmary was first built, nearly 150 years ago, it was in the country and there would have been no objection on the part of anyone if it had occupied the whole of the present area. But the town grew up to and amœba-like surrounded it, and now vested rights are claimed for the citizens, which is a little hard on the infirmary. If they want the open space they ought to pay handsomely for it and not mulct the infirmary in costs for a state of things which they themselves have brought about. Should it be decided that negotiations with the corporation shall be renewed and a bargain should be arrived at the future site of the infirmary will become the subject of discussion.

The Danger of Flannelette.

The district coroner and the city coroner have frequently to hold inquests in and around Manchester on children who have died from burns sustained when wearing flannelette. The former held one at Levenshulme on Nov. 26th on the body of a child five years old whose nightdress caught fire. This was the third accident of the same kind investigated by him during the week, the child in each case wearing flannelette. It would perhaps be almost impossible to get the mothers in the humbler classes to adopt any of the modes of rendering flannelette fireproof, but there is no doubt that its widespread use has greatly increased the dangers of childhood.

Agricola on Milk.

A conference in connexion with the Macclesfield and District Chamber of Agriculture was held at Macclesfield on Nov. 26th to consider the clauses relating to the milk-supply and tuberculosis in the Additional Powers Bill of the Manchester Corporation. It was maintained by the chairman that tubercle in Manchester was due to insanitary conditions and not to milk. A resolution was passed unanimously expressing the opinion that the powers sought by the bill were unnecessary and unreasonable, and if put into effect would be harassing, vexatious, and ruinous to the farmer without being beneficial to the public. A second resolution urged that the Government should refuse to grant specific powers to individual corporations and that the subject, if dealt with at all, should be treated on a national basis. In the course of the discussion Dr. Niven's writings were subjected to some severe bucolic criticism which probably will not give that gentleman much uneasiness.

Nov. 29th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Finances of the Edinburgh Royal Infirmary.

AT the meeting of the board of the Edinburgh Royal Infirmary on Nov. 28th an interim report on the finances of the institution was laid on the table. It showed that the total ordinary income was £30,383, being a decrease of £236 on last year. The extraordinary income, which included donations and legacies of £100 and over, amounted to £21,237, while other extraordinary sums amounting to £59,727 were placed to the credit of the extension fund. The total ordinary expenditure for the year amounted to £41,835, being an increase of £800 over the preceding year. The average daily number of patients was 698. Dealing with extraordinary expenditure, the report stated that the sum amounted to £9185, as compared with £5528 in the previous year, the principal items being as follows: electric lighting, £5793; alterations on theatres, £747; new medical electrical department, £641; and interest to beneficiaries, &c., £734. The year's expenditure on the convalescent home amounted to £2228, as against £2184. The convener of the House Committee in explaining the accounts pointed out that the increase of £800 in expenditure over the previous year had been caused to a very large extent by the increase in wages which amounted to £625. They had expended a larger sum than usual in cleaning and putting the infirmary in order in view of the visit of the British Medical Association to Edinburgh. They had, however, to face the fact that the ordinary expenditure exceeded the ordinary income by £11,502, and this notwithstanding the fact that the infirmary had been carried on most economically. The extraordinary income for the year was £11,032 more than that of the previous year, but he impressed upon the board that this was a very fluctuating source of income. Referring to the total ordinary expenditure he held that the money had been well spent and that the infirmary had been conducted with great economy. During the year there had been on an average every night in the infirmary from 1000 to 1020 people, including patients, nurses, resident physicians and surgeons, and servants. If they compared the expenditure with the 1000 people in the house every night the cost for every person was 2*s.* 3½*d.* and that was not the cost merely of maintenance and feeding but it was the cost of the medical expenditure, which amounted to £4460, of all salaries and wages,

of coal, lighting, taxes, and assessments, of outlay on building, furnishing, and of very many other expenses that they had to meet. If all that was taken into consideration the 2*s.* 3½*d.* was a very moderate sum indeed. In addition there were over 30,000 outdoor patients during the year and many of these attended two, three, or four times. He thought they would all agree with him that the infirmary had been economically and carefully managed and that they were indebted to their superintendent, Surgeon-Major-General Lithgow, for the care he had taken in making the money go as far as it possibly could.

Outbreak of Typhus Fever in Edinburgh.

Last week it was reported to the Public Health Committee of the Edinburgh Town Council that an outbreak of typhus fever had occurred in the Simon-square district and that upwards of 30 cases had been received into the City Hospital. It was stated that what had led to the spread of the disease had been the difficulty of recognising its earlier symptoms, the cases having been generally regarded as cases of typhoid fever, scarlet fever, rheumatic fever, and influenza. Six cases had been removed from the infirmary and one from the Deaconesses' Hospital. The exact origin of the outbreak had not been determined with certainty, but everything pointed to a "wake" having been the starting point.

Infectious Diseases in Edinburgh.

At this meeting of the Public Health Committee it was also reported that during the month of October 791 cases of infectious disease had been notified. These included 1 case of typhus fever, 29 of typhoid fever, 29 of diphtheria, 288 of scarlet fever, and 444 of measles. This was the highest number of cases of infectious disease in October for the past six years. There were 400 patients in the City Fever Hospital at the date of the report.

University of Edinburgh: Statistics of the October Examinations.

At the medical preliminary examination the results were as follows:—English, 51 passed, 45 failed; mathematics, 40 passed, 48 failed; Latin, 57 passed, 51 failed; Greek, 16 passed, 5 failed; French, 29 passed, 34 failed; German, 3 passed, 4 failed; Dutch, 1 failed; Armenian, 1 passed; Arabic, 1 passed; Russian, 1 passed. The following statistics show the number of first year students in the Faculty of Medicine: Passed preliminary at one university examination, 27; passed preliminary at two university examinations, 9; passed preliminary partly with outside exemptions, 10; passed preliminary entirely with outside exemptions, 64; exempted by degrees in arts or in science, 9; completed preliminary examination, 119, as against 129 in October, 1897; formerly completed preliminary or otherwise accounted for, 68; total first year students of medicine, 187. The number of female extra-academical graduation students of medicine was 67.

Dinner and Presentation to Dr. James B. Russell.

On the evening of Friday, Nov. 25th, the Society of Medical Officers of Health of Scotland entertained Dr. James B. Russell, the new medical member of the Local Government Board, to dinner in the Windsor Hotel, Glasgow. Dr. Campbell Munro, the President of the society, occupied the chair and Dr. J. C. McVail acted as croupier. After the usual loyal and patriotic toasts Dr. McVail proposed the health of the guest of the evening and spoke in high terms of Dr. Russell's signal services to public health, not merely in his own city of Glasgow but in Scotland generally, and not merely to his sanitary authority but to the public and the medical profession. The President then presented Dr. Russell with an address on parchment contained in a handsome silver casket suitably inscribed. Dr. Russell, in his reply, thanked the members for their good wishes and their beautiful gift, and expressed his great gratification in the knowledge that in entering on his new duties he possessed the friendship and confidence of his colleagues of the public health service.

Glasgow Western Infirmary.

The annual meeting of qualified contributors to the infirmary was held on Nov. 24th. The report referred to the recent improvements introduced in connexion with the infirmary, such as the installation of the electric light, a new dining-hall for the nurses, &c. The projected dispensary for out-patients which is expected to cost about £25,000 will be commenced shortly. A movement in favour of securing the presence of ladies on the board of management found expression at the meeting but was not pushed to a vote, the chairman undertaking on behalf of the managers to give the proposal full consideration.

Glasgow Health Department.

It is intimated that the official proposals for the new arrangements rendered necessary by the appointment of Dr. J. B. Russell to the Local Government Board include the nomination of Dr. A. K. Chalmers as medical officer of health at a salary of £700 per annum and the election of an assistant medical officer at £250 per annum. It is also proposed to confer on Dr. Russell an annuity of £250. The decision on all these points lies with the corporation and if rumour is correct will only be reached after some controversy. Dr. Russell's impending removal to Edinburgh has been utilised for the purpose of expressing appreciation of his work and influence in many quarters.

Curious Action against a Surgeon for Assault.

The medical officer of the prison of Glasgow, Mr. James Devon, is at present the defendant in a very unusual action. The pursuer is an engineer who during his compulsory residence in the prison was in the usual course vaccinated, or rather revaccinated, by the defendant. For this, which he claims was an assault, he now sues the medical officer and places the damage at the sum of £500. He also avers that no proper examination of the vaccine matter was made and that the instrument with which the operation was performed was not clean, having been previously used in the vaccination of other prisoners. The answer to these charges is that whilst revaccination was not compulsory the pursuer consented, or at least did not object, to the operation; that the vaccine matter was pure calf lymph; that there is no ground for the pursuer's statement of uncleanliness; and that the pursuer having suffered no injury is not entitled to compensation. The sheriff has heard witnesses in the case but has not yet given his decision.

The Case of Abraham Eastburn.

Abraham Eastburn who was convicted in the Glasgow Sheriff Court in July last and fined £20 for a contravention of the Medical Act has, as the result of his appeal to the Court of Session, secured the reversal of the conviction. The reasons for this judicial finding were that certain evidence in reference to the Medical Register had been improperly admitted and that the letters A.M.S. which the appellant placed after his name did not correspond to or suggest any registrable medical qualification.

Nov. 29th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dublin University Biological Association.

THE opening meeting of the Dublin University Biological Association which took place on Nov. 25th was attended by a large number of distinguished visitors who wished to hear the important communication of Dr. Haughton on the Present Position of the Roentgen Rays in Surgery and Medicine. He divided his subject into three portions, discussing, firstly, the cases in which a reasonable amount of success might be confidently expected; next, those in which the results must be judged with a due regard to the difficulties surrounding each; and, lastly, the influence of the Roentgen method of treatment on bacterial diseases and as a therapeutic agent useful in other directions. The lecture was fully illustrated with lantern slides and photographs, the pathological as well as the curative effects of the "rays" being fully dealt with. Mr. Mitchell Banks, of Liverpool, in proposing a vote of thanks to the lecturer mentioned that he had been permitted by the President of the association to exhibit some specimens of his own illustrative of the subject. He then gave a most interesting demonstration of views on the screen of skiagraphs showing various conditions of bone and the presence of different foreign bodies in the flesh, the last photograph shown being that of the hand of Lord Lister. Mr. Banks then gave a most valuable and careful criticism of what had really been done by the Roentgen rays in surgery and

medicine and what might still be expected to be performed in the same direction and by improved means. The resolution was seconded by Sir William Stokes in an eloquent speech in which, abandoning all attempts at sceptical criticism, he described himself as a most enthusiastic believer in the good already done and likely still to be done for surgery and medicine by means of the "rays," concluding by the statement that he regarded the discovery as one of the most beneficent gifts that physical science had conferred upon them during his own time. Surgeon-General Preston and Major Battersby, recently the director of the Roentgen operations on the wounded in the Soudan, addressed the meeting.

Annual Dinner of the Ulster Medical Society.

The annual dinner of the Ulster Medical Society was held in Prince's Restaurant, Belfast, on Nov. 24th The President, Dr. Nelson, occupied the chair and over 60 gentlemen sat down to dinner. The following were the toasts:—"The Queen" and "The Prince and Princess of Wales and the other members of the Royal Family," proposed by the President; "The Lord Lieutenant and Prosperity to Ireland," proposed by Mr. Kerin and responded to by Brigade-Surgeon McFarland; "The Queen's College and Belfast Medical School," which was proposed by Dr. King Kerr and to which the President of the College (Dr. Hamilton), Professor Byers, and Dr. Calwell replied; "The British Medical Association," proposed by Dr. Lindsay and responded to by Dr. O'Neill, President of the North of Ireland Branch, and the Secretary, Dr. John Campbell; "The Army, Navy, and Reserve Forces," proposed by Professor Whitla and responded to by Colonel Moore, principal medical officer of the Belfast district. "The President of the Ulster Medical Society" was very happily proposed by his old friend Dr. Walton Browne, who spoke of their long and warm comradeship. Dr. Nelson (the President) having made a very feeling reply, in which he thanked the company for the warm way they had toasted his health, proposed "The Secretary" (Dr. Colville), to whom largely the success of the dinner was due. Dr. Colville made a humorous response. During the evening songs were given by Mr. W. G. Mackenzie and Dr. R. C. McCullagh, Dr. Mulholland playing the accompaniments; and Dr. Morrow recited an amusing piece, "The Motor Car." The dinner was in every way a success.

The Belfast Royal Hospital.

At the annual meeting of the subscribers of the Royal Hospital, held on Nov. 12th, it was reported that there had, during the year ended August 31st, been 2317 new intern cases, which, added to 142 remaining in the hospital from the previous year, make a total of 2459 intern patients treated during the twelve months. Of these, 976 were medical and 1483 surgical. There were 24,455 extern cases, and of these 19,185 were surgical and 3214 medical. The total number of cases (intern and extern) treated at the hospital was 26,914. There were 145 students during the winter and 119 during the summer session. It is interesting to note that though there is an increase of intern and extern cases the daily expenditure per head is not so high as last year, being 2*s.* 2½*d.* The sum of £350 15*s.* 10*d.* (including £10 10*s.* from the Lord Mayor) was received from the Hospital Saturday Committee, being an increase of £83 2*s.* 11*d.* over that of the preceding year. The church collections have been only £366 14*s.* 8*d.*, being £23 less than the preceding year. The working classes contributed £2534 1*s.* 11*d.*, which, with £50 given by the Tramway Company, makes a total of £2584 1*s.* 11*d.*, an increase of £69 0*s.* 10*d.* over last year. The receipts for the year from all sources amounted to £7891 10*s.* 1*d.* and the expenditure £8266 3*s.* 9*d.*, the expenditure thus exceeding the income by £374 13*s.* 8*d.* The year commenced with a debt of £349 1*s.* 11*d.* and ends with a deficit of £2104 12*s.* 11*d.* Special attention was drawn at the meeting to the falling off in the church collections, and it is hoped that the heads of the churches will in the future agree upon some particular day for a Hospital Sunday. A resolution was carried authorising the board of management to sell and dispose of securities representing the funded capital of the hospital, not exceeding £3000, toward meeting the present liabilities of the hospital.—At the quarterly meeting held on Nov. 28th, it having been stated in the report that the debt of the hospital on Oct. 31st was £3228 16*s.*. Mr. Pirrie (one of the partners of Harland and Wolff) made a suggestion, which was warmly received, for increasing the funds of the charity. He said that on Jan. 14th of the coming year the most important event in shipbuilding and marine engineering would take place—the launching from their premises in Queen's Island of the *Oceanic*, the largest and heaviest boat ever yet built or launched, a ship larger than the *Great Eastern* and twice the size of the Ark. This he looked upon as the most important event which had ever taken place in Belfast shipbuilding, and his proposal was that a considerable number of the tickets of admission to the Victoria Wharf (where a seated stand would be erected) should be given to the board of management of the Royal Hospital to dispose of at whatever price they could obtain for them to those who wished to witness the launch. Mr. Ismay, chairman of the White Star Line, had also given his consent to the proposal. A hearty vote of thanks was accorded to Mr. Ismay and Messrs. Harland and Wolff for their generous offer.

The Royal Victoria Hospital, Belfast.

It is understood that the Executive Committee will shortly appoint an architect for the new Royal Victoria Hospital, to be erected on the site given them in the Grosvenor-road, opposite the Dunville-park, by the city corporation.

The Belfast Maternity Hospital.

A sale of work in aid of this charity was opened on Nov. 22nd by the Marchioness of Dufferin and Ava. She hoped they would soon have a new hospital.

Nov. 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Tuberculosis.

THE various methods of treatment suggested for tuberculosis formed the subject of discussion at the meeting of the Society of Biology held on Nov. 12th. MM. Richet and Héricourt communicated a report upon their researches into the action of various substances in tuberculosis. With regard to this matter they have made special researches into the action of turpentine. The drug was administered by inhalation, a method which they found better than injections, for by its use any operation is avoided and the drug is brought into direct contact with the microbes in the lungs and the dose can be carefully graduated until nearly a poisonous dose is reached. The animal experimented upon is placed in a box and made to inhale air charged with the vapour of turpentine in the proportion of 12 grammes of turpentine to 1200 litres of air, this being the quantity which passes through the box in one hour. The animals used underwent this treatment from March 7th to August 2nd for a space of one hour every four or five days. The drug was pushed so far as to sometimes bring on convulsions, but when this happened the animals were removed from the box. Three dogs previously inoculated with human tubercle were treated by this method and only 1 died, whilst out of 200 dogs which were inoculated during a period of eight years with human tubercle and which received no treatment not one lived more than seven months. At the same meeting of the society M. Sabrayés of Bordeaux communicated some results he had obtained as to the treatment of tuberculosis by tannin. Inoculation of a guinea-pig with an emulsion of Koch's bacillus and tannin produced virulent tuberculosis, the tannin having no action whatever when the mixture was injected at once, neither did it have any appreciable action when the emulsion was left *in vitro* for forty-six hours. The bacillus of tubercle is therefore resistant to tannin, and experiments go to show that it possesses equal powers of resistance to gallic acid. However, since it has been shown that tubercle bacilli after being submitted to the action of tannin lose the power of growing in artificial culture media, it is obvious that any experiments upon reputed remedies for tuberculosis ought to be substantiated by tests on a guinea-pig, or else the observer may consider that substances which in reality possess no antitoxic powers are of some service. M. Sabrayés, as the result of his experiments, considers that tannin has not the slightest effect in preventing the progress of tubercle in the guinea-pig, although it does not follow from this that it is equally inefficacious in the case of a human being.

The Fungus Parasite of Cancer.

At the same meeting of the Society of Biology M. Bra made known the results of his researches into the fungus parasite of cancer. For four years he has made cultures

from 204 cases of new growth, such as carcinoma of the ovary, cancer of the rectum, carcinoma of the body of the uterus, epithelioma of the tongue, epithelioma of the cervix uteri, carcinoma of the parotid gland, sarcoma of the maxilla, and carcinoma of the breast. From all these cultures M. Bra has been able to isolate without fail a fungus bearing a strong resemblance to the family of the ascomycetes. It appears in the form of round cells which form spherules, which give rise to spores shaped like cylinders which in turn produce hyphæ. The spherules are yellow in colour, round or ovoid, possessing a hyaline membrane, and furnished with a pore through which the spores escape.

New Hospital Buildings.

A new block has been opened at the Hôpital St. Antoine. It is to be devoted to the *clinique médicale* of Professor Hayem. Dr. Brouardel, Dr. Napias, director of the Assistance Publique, and M. Liard, head of the Education Department, have officially taken over the buildings which they have handed over to Professor Hayem who gave an address on the occasion of his receiving them and who also drew up the plans for them. The new block looks on to the large gardens of the hospital. In it is realised the utmost perfection of modern hospital architecture and it possesses a theatre, examination halls, a large chemical laboratory, a laboratory for pathological anatomy, a bacteriological laboratory with three culture stoves and three autoclaves. There are also a lift, a room for electro-therapeutics, and rooms for gynæcology and other subjects. The building is admirably ventilated and lighted. The theatre may be darkened instantaneously for lantern shows and radiographic experiments, and galleries from the wards communicate directly with this theatre, so that patients may be at once transferred when necessary from the one to the other. —The town of Havre has just decided to build a new sanatorium for isolating and treating cases of tuberculosis, in accordance with the report of Dr. Sorel. The sanatorium will be in the form of a villa on the shore, and a committee composed of three members, in addition to M. Sorel, have gone to study the organisation and construction of the sanatoria on the banks of the Rhine.—A new hospital at Tunis has just been opened, and the head physician, Dr. Bari, has been awarded the Legion of Honour.

The late Dr. Grubi.

Dr. Grubi recently died in Paris at the age of eighty-nine years. Although a Hungarian by birth, he came very early in life to Paris, where he devoted himself to laboratory work. His microscopical researches led him amongst other discoveries to that of the special fungus of tinea tonsurans. He then gave up strictly scientific work and devoted himself entirely to his patients, among whom his success was brilliant. He had for patients many of the men of letters of the Second Empire, such as Alexandre Dumas and Heine. He was remarkable for his extraordinary prescriptions which made his *confrères* consider him as somewhat of a charlatan or else as a facile employer of suggestion. For instance, he would frequently prescribe to a patient to live in a room entirely green and to this end to have all the window-panes, the wall-paper, the curtains, and all the furniture entirely new. Sometimes, too, he would order his patients to wear nothing but clothes of a certain colour and a certain cut and only to walk in certain streets and on a certain side of the pavement; the position (*orientation*) of the bed was also rigidly laid down according to his ruling. As he suffered from morbus cordis he gave out a long time ago that he was perfectly determined to die alone and for many months he never quitted his room where he lived practically a prisoner, only being seen by one servant and locking the door whenever this man took his departure. Under these circumstances he died, and the police commissary, called by the servants, forced open the door and found that he had been dead for some days. Before he died he had taken care to blow out the candle.

Nov. 23th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

A New Hypnotic.

A NEW hypnotic, to which the name of "heroïn" has been given, has been tried in the medical clinic of Professor Gerhardt in Berlin. According to a communication made by Dr. Strube to the *Berliner Klinische Wochenschrift* it is a product of the di-acetic ester of morphia, and it was discovered by Professor Dreser, chief of the chemical department of the Elberfeld Farben Fabriken. Large doses given to animals were followed by narcosis attended by disappearance of reflex movements and a diminished rate of respiration. In cats tetanic convulsions developed. Smaller doses reduced the number of respirations in a given time but caused an increase in the respiratory force. No paralysis of the respiratory centre was ever observed and the circulation was unaffected. The action of heroïn is very like that of codeia, but smaller doses of the former are required. It is especially useful in dyspnœa, where a decrease of the number of respirations is indicated. Heroïn is a fine white powder of slightly bitter taste; it is practically insoluble in water but its solubility is increased when a few drops of acetic acid are added. Dr. Strube administered it in cases of pulmonary affection and in tuberculosis in place of morphia and codeia, the dose being ½ centigramme (1/74 grain) given either in pills or in powder or even in the form of drops. The limits of 1 centigramme (¼ grain) for a dose or 25 centigrammes (3¾ grains) in twenty-four hours were not exceeded. The effect was satisfactory in nearly every instance. The patients had no objection to the remedy; after taking ½ centigramme or 1 centigramme they fell asleep, their dyspnœa was relieved, and the cough was stopped. The action of the drug began in about half an hour and lasted from two to four hours, after which another dose was given the effect of which continued till next morning. In a few instances, however, heroïn proved useless and subcutaneous injections of morphine had to be resorted to. Dr. Strube also tried this substance for the relief of neuralgic pains. In two cases of brachial neuralgia and sciatica respectively a centigramme was injected subcutaneously but proved to be without any effect. No undesirable complications were observed and the respiration continued to be regular, the pulse was strong and full, and the temperature was not influenced.

Long Retention of a Pessary.

A remarkable case was lately under observation in the midwives training school in Strasburg. A woman, aged sixty-five years, came to the out-patients' department there to have a pessary removed which she had worn for five years. The pessary had not been withdrawn for the last two years and a midwife consulted by the patient before coming to the hospital had not been able to dislodge it. Dr. Frank, writing in the *Münchener Medicinische Wochenschrift*, stated that the woman could neither stand nor walk without severe pain. The pessary proved to be as it were imprisoned in the vagina, for it could be rotated but not moved to or fro. When it was pulled with some force there was profuse hæmorrhage from the cicatricial formations which retained it in its position. As these structures bled freely when incised and as the woman was rather weak Dr. Frank endeavoured to subdivide the pessary and remove it piecemeal. It was therefore cut up with a saw into portions which were withdrawn without difficulty and without any serious hæmorrhage. When the vagina was at last cleared it was ascertained that the prolapse for which the pessary had been applied was overcome by the extensive cicatrisation, so that the woman's self-neglect had turned out to her advantage.

The Prophylaxis of Puerperal Fever.

Professor Hofmeier of Würzburg has recommended the prophylactic disinfection of the vagina and cervix uteri at the beginning of labour in order to avoid puerperal complications. He uses for this purpose irrigations with solution of corrosive sublimate. To his already published list of 3000 cases treated in this way he now adds in the *Berliner Klinische Wochenschrift* a new series of 1000 cases treated in the obstetrical clinic of Würzburg. The results obtained by him were excellent. In the last series only 7 women died; there was no case of puerperal infection following normal delivery. In all the 4000 cases already published there were only 6 cases of puerperal infection, of which 4 may have arisen within the hospital. Among the last 1000 cases there were 106 in which the temperature rose to over 38° C. (100·4° F.) during the puerperium; in 50 of these 106 cases the elevation of temperature was not due to puerperal infection but to other causes—especially to mastitis. Among the remaining 56 cases there were 10 in which the temperature rose above 39° C. (102·2° F.) and in 2 cases a severe complication (septic

endometritis and purulent phlebitis of the left thigh) developed. The sick-rate of all the 4000 women was 382 = 9·5 per cent.; 235 = 5·9 per cent. of the whole suffered from puerperal infection. Every case where there was a temperature of more than 38° C. during the puerperium, even when no other troubles developed, was registered as abnormal, and when it was more than 39° C. the case was regarded as being seriously complicated. Of the above 235 cases 138 = 3·4 per cent. belonged to the first and 97 = 2·4 per cent. to the second category. These results are, in Professor Hofmeier's opinion, due to the above-mentioned prophylactic disinfection of the genitals. The results are the more remarkable as the hygienic conditions of the Würzburg lying-in hospital are far from being satisfactory. The building is old, the wards are generally overcrowded, and instruction is given on a considerable scale both to students and to apprentice midwives. Other lying-in hospitals, that of Basle in Switzerland, for instance, show a much greater sick rate. Although the obstetrical clinic of that town is quite new and furnished according to modern requirements there were 170 cases of complications in 750 deliveries, being a sick rate of 22 per cent.

Nov. 28th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Organisation of the Army Medical Corps.

SURGEON-GENERAL STERNBERG makes the following statement:—"The number of medical officers allowed by law is inadequate in times of peace. The full number is 192 and there are at present 13 vacancies. The administration of the Surgeon-General's office and the Army Medical Museum requires 6; 11 are on duty at medical supply depôts and as chief surgeons of military departments; 1 is at the Soldiers' Home; 56 are at general hospitals, on hospital ships, and at garrisoned posts; 4 have been disabled since the commencement of the war by sickness; 5 are on duty as chief surgeons of army corps. This leaves 97 medical officers available for duty with troops on the field; 35 of these have been appointed brigade-surgeons of volunteers and are distributed among the various army corps. Since the declaration of war the loss by death has been 2; and 23 are now absent from duty on sick leave. This deficiency in regular medical officers has made it necessary to employ more than 650 contract surgeons. Besides these there have been appointed by the President 8 corps surgeons with the rank of lieutenant-colonel, 24 division surgeons with the rank of major, 86 brigade surgeons, also 3 medical officers for each of the regiments of the United States infantry, cavalry, and engineers. All voluntary regiments have 3 medical officers appointed by Governors of States." Referring to the alleged deficiency of medical officers with the Fifth Army Corps at Santiago he states that "this corps on leaving Tampa had with it 46 regular medical officers and 25 contract medical men, a total of 71, or over 4 per 1000 of the strength of the command, which was reported about 16,000. Additional medical assistance was sent by the hospital ship *Relief*, which arrived at Siboney on July 7th with 20 medical men on board. There was also some volunteer assistance by Dr. Lesser of the Red Cross Society, Dr. Rudberg of the Swedish navy, and several surgeons of the navy from ships in the vicinity." It was not the expectation of the medical department that every wounded man would receive the attention of a surgeon at once—no modern army makes such provision of medical assistance as this service would require—but attached to our army there is a corps of non-combatants known as the Hospital Corps, which is the organised and authorised Red Cross of the army. At the outbreak of the war we had 1800 hospital corps men in the service; at present there are more than 6000. These men wear a brassard upon the left arm bearing the red cross of the Geneva Convention.

Condemnation of Behring's Patent.

The Mississippi Valley Medical Association has set the seal of its condemnation upon the unethical conduct of Professor Behring and resolved that it is the duty of every member to renounce the use of the Behring serum; also, that the American manufacturers who purpose contesting the patent in the courts are entitled to the moral and substantial support of every American practitioner. It also resolved that an earnest appeal should be made to the members of the Commission on the Revision of our Trade Mark and Patent Laws, appointed by President McKinley, and their assistance invoked for the modification of existing laws and the suppression of prevailing abuses.

The Dry-Air Treatment of Tuberculosis.

The dry-air plan of treating pauper patients afflicted with tuberculosis of the lungs is to be given a trial at the new Charity Hospital, which was opened for the reception of patients at Dunning, near Chicago, on Nov. 1st. This institution is designed to put in practice the dry-air treatment for phthisis, and will accommodate 450 patients. The object is to reproduce as nearly as possible the climate of Arizona and New Mexico. The County Board of Commissioners appropriated $60,000 for this hospital and more recently $3000 more have been set aside to complete the work. Statistics show that one-eleventh of the deaths in Chicago is due to phthisis.

Statistics of Crime in the United States.

At the last meeting of the National Prison Association the President, Mr. Brockway, stated that present statistics show nothing of scientific value as to the increase or decrease of crime in the United States, and there are no accessible data by which a just international comparison of the amount of criminality can possibly be made. It is estimated that the number of convictions for crime of every grade annually in the United States is 720,000; the number of committals to prison is 260,000; and the number of prisoners in all gaols, including the juvenile prisons, is 85,000. A rough estimate is made of the cost of crime in the United States, which includes the expense of police and constabulary courts, trials, witnesses, &c., prison maintenance, and interest on investments for prison establishments, excluding from the calculation the amount of loss from the crimes themselves, and the footings exceed $50,000,000 of annual expenditures.

Nov. 18th.

Obituary.

ALEXANDER SMITH, C.B., M.D., L.R.C.S. EDIN., SURGEON-GENERAL ARMY (RETIRED); HONORARY PHYSICIAN TO THE QUEEN.

SURGEON-GENERAL ALEXANDER SMITH, who died on Nov. 25th at his residence in Alfred-place, South Kensington, was one of the numerous military medical officers whose record of service is long and distinguished. He was born about 1824, his parents being residents in Banffshire. Medicine having been selected as his profession he attended the usual classes and became qualified in 1846 as M.D. of Edinburgh University and Licentiate of the Royal College of Surgeons of Edinburgh. In the same year he entered the army as assistant surgeon and was promoted to be surgeon in January, 1855. His first war service was in the Crimea in 1855; he was present at the siege of Sebastopol, including the assualt on the Redan on June 18th, and was awarded a medal with clasp and a Turkish medal. In 1866 he became surgeon-major and in April, 1876, he was promoted to be deputy-surgeon-general. In 1877–78 he accompanied the expedition against the Jowaki Afridis and received the medal. In the Afghan War of 1878–80 he was principal medical officer, being present in the engagements at Amed Kheyl and Urzu, near Ghazni. For his services in this campaign he was mentioned in despatches and received the C.B. as well as a medal and clasp. In 1881 he became surgeon-general and he retired in 1884. Surgeon-General Smith was married twice. His death was somewhat sudden. His daughter, however, was with him during his last moments, and at a coroner's inquest held on Nov. 29th the sad event was attributed to syncope.

WILLIAM AUGUSTUS BUCHAN, M.B., C.M. EDIN., L.S.A.

DR. W. A. BUCHAN died at his residence, 8, Crescent-place, Plymouth, on Nov. 26th, from pneumonia, after an illness of only a few days' duration. Dr. Buchan was the son of the late

Captain D. A. Buchan, R.N. He received his medical education at Edinburgh University and the London Hospital and took the qualification of L.S.A. in 1881, graduating M.B., C.M. Edin., a year later. He then held the posts of house surgeon first at the Manchester Clinical Hospital for Women and Children and afterwards at the South Devon and East Cornwall Hospital, Plymouth. On resigning the latter appointment about twelve years ago he commenced private practice in Plymouth and soon became a well-known practitioner. He was appointed medical officer for the Provident Branch of the Plymouth Public Dispensary and certifying factory surgeon for the town. The deceased took a great interest in ambulance work and was an examiner for the St. John Ambulance Association. He also took much interest in Church work, being for some years churchwarden at St. Peter's Church and a member of the Guild of St. Luke. Dr. Buchan, who was only thirty-nine years of age at the time of his death, leaves a widow and two sons (one an infant). The news of his premature death has been received in Plymouth with much regret as he was very popular and was held in the highest esteem.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Louis Flatow, a well-known and greatly respected Berlin practitioner, from apoplexy at the age of sixty-four years. He was decorated with the Iron Cross during the Franco-German War, and since he settled in Berlin he had been indefatigable in his efforts to raise the position of the medical profession.—Dr. Turel, Professor of External Pathology in the Grenoble Medical School.—Dr. Karpinki, formerly Extraordinary Professor of Surgical Appliances in the Military Medical Academy, St. Petersburg.—Dr. A. Caselli, Professor of Clinical Surgery in the Genoa Medical School.—Dr. Lienhart, Professor of Medical Botany in Lille.

UNIVERSITY OF CAMBRIDGE.—Lord Kitchener of Khartoum received a warm ovation on his visit for the purpose of receiving the freedom of the borough and the honorary doctorate of the university on Nov. 24th. At the same congregation Mr. H. Smith, M.A., Trinity, Mr. E. Harrison, M.A., Clare, and Mr. J. W. W. Stephens, B.A., Caius, were admitted to the M.D. degree. Mr. S. V. Roe, B.A., Pembroke, was admitted to the degrees of M.B. and B.C.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITORS' ASSOCIATION.—The third annual dinner of this association was held at the Café Royal, Regent-street, on Saturday last, the President, Mr. F. Weiss, in the chair. The capital attendance and the encouraging tone of the speeches augur well for the future prosperity of this young association of those engaged in supplying the requirements of the medical profession. The last exhibition of the association was reported at length in THE LANCET of June 11th last.

PRESENTATION TO A MEDICAL MAN.—During a recent voyage of the steamer *Ninereh* from England to Australia a steerage passenger injured himself internally; an operation being immediately necessary Mr. E. M. Owens, L.R.C.P. Edin., M.R.C.S. Eng., surgeon to the steamer, operated in a gale with such success that the man walked off the ship three weeks later quite well. Chloroform was administered by the purser. At Messrs. Dalgety and Co.'s office, on Oct. 19th last, the captain of the steamer, on behalf of the owners, presented Mr. Owens with a travelling case and fittings as a memento of the voyage and of the single-handed operation in trying circumstances.

THE INSANITARY CONDITION OF MORRISTON.—On Nov. 22nd a deputation from Morriston appeared before the Water and Sewer Committee of the Swansea Town Council to complain of the insanitary condition of their neighbourhood. An extract from a sermon by the Vicar of Morriston bearing upon this matter was given in THE LANCET of Nov. 26th. The medical officer of health (Mr. E. Davies) reported that the whole district was in a lamentable condition and he recommended various improvements. A letter was read from the Local Government Board calling attention to the fact that there had been 96 fatal cases of diphtheria in the borough of Swansea and requesting a report from the medical officer of health upon the subject. It was decided to hold a special meeting to consider the report of the medical officer of health.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THURSDAY, NOV. 24TH.

THE proceedings of the first two days of the session of the Council were reported in last week's issue of THE LANCET. On the third day of the session there was again a full attendance of the members, Sir WILLIAM TURNER occupying the chair.

The Programme of Business.

Mr. HORSLEY said he desired to call attention to the fact that a friend of his, a registered medical practitioner, who attended the meeting of the Council as a member of the public in the public gallery, had asked to be supplied with a copy of the programme of business and had been refused. This was a novelty in practice, for hitherto persons in that capacity who attended the meetings of the Council had always been supplied with the programme. He had been so supplied himself before he was a member of the Council. He did not think the refusal was necessary, because the programme was more or less in the nature of a public document.

The PRESIDENT said that the programme of business was a confidential document and was marked with the word "confidential."

Mr. HORSLEY submitted that it ought not to be marked "confidential" and ought not to be so regarded.

The PRESIDENT assured Mr. Horsley that the matter had been considered repeatedly.

Mr. HORSLEY asked whether it had been discussed in the Council.

The PRESIDENT said he was not prepared to say that it had been actually discussed in the Council.

Mr. HORSLEY intimated that he would not pursue the matter further at present.

The Case of Frederic Mercer.

The Council then proceeded with the consideration of the case of Frederic Mercer, registered as of 141, Antill-road, E., Lic., Lic. Midwif. 1886, K. Q. Coll. Phys. Irel., who had been summoned to attend the Council to answer the following charge as formulated by the Council's solicitor:—

That, being a registered medical practitioner, he had in his employment an unqualified person named Bryden, whom he permitted and enabled to carry on medical practice and attend on and administer relief to patients as though he were duly qualified and whom he (Mercer) covered in the carrying on by him of a medical practice.

The name of the complainant is Mr. Alfred Henry Parker, of 142, Grove-road, Bethnal-green, registered as Lic. R. Coll. Phys. Edin. 1870, Lic. Soc. Apoth. Lond. 1870.

Mr. MERCER attended together with Mr. Bryden, his assistant, and Mr. Parker appeared to support his complaint.

Mr. MUIR MACKENZIE explained the circumstances of the case. Among other things he read the statutory declaration of Mr. Parker in which that gentleman said that on August 31st he received a message at his surgery to attend a midwifery case and when he went to the house he found Mr. Bryden in attendance on the patient. The child was born and Mr. Bryden was about to separate the cord. He said to the two women in attendance, "Oh, this is not my case," whereupon Mr. Bryden said, "No, this is Mr. Mercer's case." Mr. Parker afterwards met the husband who asked him, "Is it all right?" to which Mr. Parker replied, "Mr. Bryden was there." The husband said that he had called for Mr. Mercer and was told that he was engaged. Mr. Bryden offered to come to see his wife, but he (the husband) told him not to come as he knew it would be illegal. In a letter to the Registrar Mr. Mercer said that Mr. Bryden had attended the case under his personal supervision, he (Mr. Mercer) having visited the case three times on the day of the accouchement.

Mr. PARKER said he had no further legal proof to offer, but he would be glad to answer any questions addressed to him. In reply to members Mr. Parker said that Mr. Mercer and Mr. Bryden lived in the same house, the wife of the latter looking after the house. He had seen consultation papers issued by Mr. Mercer, on which the prices for midwifery and other matters were stated, and he asserted that the prices were cutting prices.

Dr. GLOVER: Do you understand the General Medical

Council in its late resolution to have forbidden a registered practitioner to allow his unqualified assistant to attend to midwifery?

Mr. PARKER: Really, I don't know. I asked the question and I was told that I ought to understand the law and go away and obey it. In one of my letters I say that I was under the impression that the employment of an unqualified assistant in the conduct of midwifery or any capacity other than surgery attendance is illegal but I asked for information.

Dr. GLOVER: And your object in coming here is to get an answer to that question?

Mr. PARKER: Precisely.

Dr. GLOVER: Whether the employment of an unqualified assistant in midwifery cases is a contravention of the rule of the Council?

Mr. PARKER: Precisely. I have no animosity against Mr. Mercer; I only want to get at the truth.

Mr. MERCER then addressed the Council. He said that on the day in question he visited the patient three times. Between the second and the third visit the people sent round to his house for him and when he called he found that Mr. Bryden had got there before him by some three or five minutes. He never allowed Mr. Bryden to make a visit on his behalf in any case of illness and he could only regard this complaint as the result of jealousy. Mr. Bryden's duty was simply to mix up medicine for him and if he did anything else it was under his direct personal supervision. Mr. Bryden lived in the house with him and Mrs. Bryden acted as his housekeeper, receiving a regular salary for what she did. He had since seen the husband of the patient and he made no complaint whatever about Mr. Bryden. As to the papers Mr. Mercer had spoken about they were prescription papers given only to patients and of course retained by them in order that the medicine might be renewed if required. In reply to questions Mr. Mercer said that when Mr. Bryden went to the house he knew that he (Mr. Mercer) would be there in a very few minutes. He believed that although Mr. Bryden had not gone through any regular course of study he had during his lifetime attended between 4000 and 5000 cases of midwifery. He had often lost cases through Mr. Bryden not being able to attend them, and he might say that to meet his increasing business he had recently engaged a qualified assistant. Eight years ago he (Mr. Mercer) was assisted by the late Dr. Rich, and it was at that time that he made the acquaintance of Mr. Bryden, who was an unqualified assistant to Dr. Rich. When he first saw the case in question he told the people that it would be a natural labour and that he would just look in occasionally. He was the most successful man in the district and they did all sorts of things to him; he believed they would kill him if they could.

Mr. BRYDEN, examined by Mr. Mercer, said that he had never attended midwifery cases without him (Mr. Mercer) nor had he ever attended any case of illness except under his personal supervision. The husband knew perfectly well that he was unqualified, but he made no complaint about him going to see his wife. He certainly had no recollection of the husband objecting to him going. It was a first case and the husband was very nervous, and he told him that Mr. Mercer would not be long in appearing on the scene.

In reply to members of the Council Mr. BRYDEN said that 25 or 26 years ago he was a student at the South Hants Infirmary, Southampton. He had not passed any preliminary examination nor had he attended any lectures, but he went round the beds with the medical officer on duty, who used to put questions to the students, and he had read up certain works. He had been an unqualified assistant ever since leaving the hospital. He had never gone to a midwifery case before when Mr. Mercer was out and he should not have gone in this case unless he had known that Mr. Mercer was on the way. His duties with Mr. Mercer were simply to dispense and take messages. Prior to this new regulation of the General Medical Council he regularly attended midwifery cases.

The Council, after deliberating *in camerâ*, decided that the charge made against Mr. Mercer had not been proved to its satisfaction.

The Case of John Lloyd Whitmarsh.

In the case of John Lloyd Whitmarsh, registered as of 3, Alfred-place West, South Kensington, Lic. Soc. Apoth. Lond. 1871, Lic. R. Coll. Phys. Edin. 1872, who on Oct. 24th at the Central Criminal Court was convicted of the murder of Alice Bayly and sentenced to death, a sentence since reduced to a period of penal servitude, the Council directed the Registrar to remove the name from the Medical Register.

The Case of Frederick Alfred Fisher.

The Council then proceeded to the consideration of the case of Frederick Alfred Fisher, of 29, Colebrooke-row, Islington, registered as Mem. R. Coll. Surg. Eng. 1869, Lic. R. Coll. Phys. Edin. 1870, Lic. Soc. Apoth. Lond. 1871, who had been summoned to answer the following charge as formulated by the Council's solicitor:—

That, being a registered medical practitioner, he seeks to attract practice by public advertisements, containing invitations to persons to consult him professionally at an address named in the advertisements, which advertisements published by him or to the publication of which he was a party were themselves of a character grossly discreditable to a professional medical practitioner. The advertisements complained of were those of an institution called Nervous Debility Dispensary, City-road, E.C., and had been published in the advertisement columns of the *People* newspaper and elsewhere,

The complainants are the Incorporated Medical Practitioners' Association.

Mr. Fisher did not appear. The complainants were represented by Dr. Hugh Woods, President of the Incorporated Medical Practitioners' Association, with whom was Mr. R. R. More Madden.

Mr. MUIR MACKENZIE read the documents in the case, including a letter from Mr. Fisher stating that the writer was at a loss to understand why he should receive a summons from the General Medical Council, seeing that it was now twelve years ago since he had sent a letter to the Council requesting that his name should be taken off the Medical Register.

The PRESIDENT said that there was no record in the Council's office of the receipt or acknowledgment of any such letter. He directed the case to proceed.

Dr. WOODS thereupon said that "advertising" was becoming quite prevalent in the medical profession. Innumerable cases were being seen, to the disgrace of the profession. For example, they knew of a "doctor" who was going about carrying a black bag and pushing handbills advertising himself under the doors of all the houses in his locality. But the worst of it was that there was an increase in the practice of advertising in the newspapers, the announcements in these being almost always of an indecent character relating to private ailments and ailments of a delicate character. These tended to bring the medical profession into disrepute and the society to which he belonged was anxious to get the General Medical Council to follow the example of the Incorporated Law Society and the Stock Exchange, and declare that advertising by registered medical practitioners was infamous conduct in a professional respect. Advertising was no doubt profitable in a pecuniary sense, but as the respectable members of the profession considered it degrading to advertise and as the Council were opposed to it, those who got the profit were the less respectable members of the profession, and the Council should see that they should not have the opportunity to carry on their business unless on terms of equality.

Dr. MCVAIL asked if Dr. Woods was prepared to prove the identity of the Mr. Fisher of Colebrooke-row with the Mr. Fisher of the City-road.

Dr. WOODS thought the letter from Mr. Fisher contained the admission that the Mr. Fisher of Colebrooke-row was the Mr. Fisher of the City-road. He had made careful inquiries and found that the two addresses were those of the same man and he could bring a witness to prove it if it were necessary.

Mr. MUIR MACKENZIE said that in the absence of any dispute to the contrary the Council should consider that identity was proved.

The PRESIDENT thereupon invited Dr. Woods to proceed.

Dr. WOODS said it was high time that a definite understanding was come to as to whether advertising was to be allowed. If Mr. Fisher was not entitled to advertise, advertising as in his case should be declared infamous conduct.

The PRESIDENT said he did not think Dr. Woods need argue that matter, which was already settled so far as the General Medical Council and the Courts of Law were concerned.

Dr. WOODS said that there then could be no hardship in dealing with Mr. Fisher who, as shown by his letter, did not value the privilege of registration. In the circumstances he thought the Council need not hesitate in taking effective steps to stop the pernicious practice now complained of.

Some conversation followed and in the course of it

Sir RICHARD THORNE again raised the question of identity He said there were at least two men of the name of Fisher on the Register and both of them had the same medical degrees.

Dr. LOMBE ATTHILL was not sure that identity had been established.

Dr. WOODS said that Dr. Cook, who had lived for many years at Islington, had informed him that the men of the two addresses were one and the same. Dr. Cook lived in the country and he (Dr. Woods) had thought it unnecessary to bring him to London to prove his statement to the Council direct. If, however, there was doubt of a serious nature he should ask that the case should be adjourned so that he might call evidence.

Dr. MCVAIL thought the Council could not go on without evidence of identity and he moved the adjournment of consideration of the case.

Dr. LOMBE ATTHILL seconded the motion, which after some further conversation was put to the vote and was declared to be lost on its being found that it was supported by only six of the members present.

The case thereupon proceeded on its merits.

In answer to Dr. MACALISTER Dr. WOODS explained that no communication whatever had been made by the complainants to the Mr. Fisher summoned previously to the proceedings being taken before the Council.

After the Council had deliberated in private for some time

The PRESIDENT announced that they judged Mr. Fisher guilty of infamous conduct in a professional respect and now directed the Registrar to erase his name from the Medical Register.

Mr. BROWN, as a member of the Incorporated Medical Practitioners' Association, took no part in the consideration of the case.

The Case of the late Mr. H. Kingsley Hunter.

Mr. BROWN said he rose as a matter of urgency to make a motion on this case, seeing that the Council's legal advisers were present. He and Mr. Horsley on the preceding night had had an opportunity of inspecting the papers in the case. The Hunter case—

The PRESIDENT asked whether the Council should not discuss this matter *in camerâ*.

Mr. BROWN thought that what he was going to say should be spoken in public as it was of great importance to the profession.

Sir CHRISTOPHER NIXON said that as the case was *sub judice* surely it should not be brought forward unless when the Council were *in camerâ*.

Dr. MACALISTER wanted to know whether Mr. Brown was to bring forward a motion.

Mr. BROWN replied that he was. The motion was on the programme of business.

Dr. MACALISTER said that the motion was on the programme for the following day.

The PRESIDENT said that in that case Mr. Brown would in the first instance have to get the permission of the Council to go on.

Mr. BROWN said he was not going into the merits of the case. He simply just now wished to know if Mr. Muir Mackenzie could inform the Council whether it was the fact that the Hunter case was to be taken within the next few days.

Mr. MUIR MACKENZIE replied that he had endeavoured to get the case brought forward before the present session of Council, but he had been unsuccessful, and it was now uncertain on what day the court would hear it. The appellant (Mr. Hunter) was dead, and some of the officers of the Court of Queen's Bench were of opinion—well, he hesitated to make the statement.

The PRESIDENT: We should hear it in private.

Mr. BROWN said he had now no objection that they should go *in camerâ*.

Strangers were thereupon ordered to withdraw and the Council discussed the matter in private during the remainder of the sitting.

FRIDAY, NOV. 25TH.

The Council resumed work to-day, Sir WILLIAM TURNER being in the chair.

The Case of James Havard Jones.

The entire sitting of the Council was occupied with the consideration of the case of James Havard Jones, registered as of Ogo, Llandyssil, Carmarthenshire, M.B., Mast. Surg. 1894, Univ. Edin., who had been summoned to answer the following charge as formulated by the Council's solicitor:—

That, being a registered medical practitioner, he covers an unqualified person named George Jenkins in the carrying on by such unqualified person of a medical practice, and permits and by his presence and assistance enables the said George Jenkins to carry on a medical practice and attend to administer relief to patients as though he were duly qualified.

The name of the complainant is Dr. John Jones, of Clydach, Swansea, registered as M.B., Bac. Surg. 1892, M.D. 1893, Univ. Lond., Mem. R. Coll. Surg. Eng. 1892, Lic. R. Coll. Phys. Lond. 1892.

Dr. Havard Jones attended with Mr. Lawson Walton, Q.C. instructed by Mr. David Randell, and Dr. John Jones attended without legal assistance.

Dr. JOHN JONES, presenting his case to the Council, said that Mr. Jenkins was a prominent man in the village of Clydach. He had resided there for nearly thirty years and as an unqualified assistant had been in the employment of successive medical men. He (Dr. John Jones) had employed him, but on Jan. 1st, 1898, in obedience to the new rule of the General Medical Council, he had dispensed with his services. On that day also he had forwarded to each of the works in the district a copy of the new rule along with a letter saying that owing to the rule he was not in a position to employ Mr. Jenkins any longer as an unqualified assistant. On receipt of his communication the employés at the various works met together and selected two of their number from each works to act as delegates. These delegates met together for the purpose of discussing the situation and deciding what steps should be taken, as there were a number of the men who had grown accustomed to the services of Mr. Jenkins and were not willing to see them dispensed with or Mr. Jenkins put on one side. Mr. Jenkins attended the meeting, but he (Dr. John Jones) declined to attend, though he agreed to meet representatives at his own house and discuss the situation with them there. He explained to these representatives that he had dispensed with the services of Mr. Jenkins because of the new rule of the General Medical Council, and in the end the meeting decided to offer the appointment of medical officer to Dr. Havard Jones on condition that he employed Mr. Jenkins. He (Dr. John Jones) resigned his appointment, but afterwards offered himself for reappointment. Dr. Havard Jones, a total stranger in the district, accepted the appointment, came to Clydach, and at once established himself in the house and surgery of Mr. Jenkins. Since then he had been constantly driving and walking about with Mr. Jenkins. Dr. John Jones proceeded to read to the Council a number of declarations. One made by himself referred to a visit he had seen Mr. Jenkins pay to a farmhouse where a woman had been confined two days before; another stated that Mr. Jenkins was almost every day to be seen in the company of Dr. Havard Jones; and a third dealt with a visit paid by Mr. Jenkins to the house of a man who was suffering from sore-throat.

Examined by Mr. LAWSON WALTON, Q.C., Dr. JOHN JONES said that Mr. Jenkins was in his employment from May, 1895, until Jan. 1st, 1898, and he had no other ground for dispensing with his services than the new resolution of the General Medical Council nor did he assign any other cause. He admitted that many of the miners considered Mr. Jenkins had been somewhat hardly used, but there was no capacity in which he (Dr. John Jones) could give him further employment.

Mr. RICHARD LLEWELYN DAVIES, chemist, Clydach, gave evidence as to seeing Mr. Jenkins walking and driving about with Dr. Havard Jones.

Mr. LAWSON WALTON, Q.C., then addressed the Council on behalf of Dr. Havard Jones. He submitted that Dr. John Jones had entirely failed to prove his charge of covering. He had brought no evidence to show that patients had been treated by Mr. Jenkins since the arrival of Dr. Havard Jones upon the scene. At the same time his client, jealous of his professional honour and reputation, desired to put his version of the case before the Council. Dr. Havard Jones was brought to the village knowing very little of the quarrel which had taken place. Practically all he knew was that there was a vacancy which either he or some other medical man would have to fill. Mr. Jenkins had been continuously employed in the village for thirty years by successive medical men. He was not concerned to defend his employment but it was the fact that Mr. Jenkins was a man of high character and he was greatly

beloved by the people among whom he had worked during all these years. Suddenly and after Dr. John Jones had availed himself of Mr. Jenkins's services for over two years he discharged him. From the point of view of this Council it was a proper discharge, but from the point of view of these workmen it could easily be understood that Mr. Jenkins became an object of very great sympathy, and it was thought, rightly or wrongly, that Dr. John Jones had acted harshly in the matter. Mr. Jenkins had a house, the most important house in the village, and a surgery stocked with drugs; and he had also a horse and trap, and to be dismissed at once from his employment without any sort of compensation was a most serious matter for him. It was thought that Dr. John Jones might have attended the meeting of delegates and discussed the matter, because the men did not see why he should be unable to find some sort of legitimate employment for Mr. Jenkins. He did not, however, attend, and, further, he sent in his resignation. Various other medical men were approached and among them Dr. Havard Jones, who went to see the place. On his return home Dr. Havard Jones sent a telegram saying: "Cannot possibly accept appointment while Jenkins has anything to do with the practice," and he received a letter from Mr. Jenkins saying that he was ready to obey and respect the wish of the General Medical Council not to do anything as an assistant to any medical practitioner. Mr. Jenkins said further that he was in bad health and was going away to Scotland, but he would leave it to his daughter to arrange about the use of the house and surgery and the horse and trap. Dr. Havard Jones went to Mr. Jenkins's house and resided there because there was no other eligible house in the village, and for the use of it and the surgery and the horse and trap and his board he agreed with Mr. Jenkins's daughter to pay £15 per month. In accepting the appointment Dr. Havard Jones fettered himself in no way with regard to Mr. Jenkins, nor had he employed that gentleman in any capacity whatsoever. As to Dr. Havard Jones being seen walking and driving with Mr. Jenkins, there was no reason why the two men should not enjoy each other's company if they wished it. Mr. Jenkins certainly visited the farmhouse where there had been a confinement, but he did not visit as a medical man nor did he even see the patient. As to the sore-throat case, in that also he never saw the patient.

Dr. HAVARD JONES gave evidence to bear out the statement of his counsel. He insisted that he should never have accepted the appointment unless he had received the assurance that Mr. Jenkins would refrain from practice of any kind and he denied that he had entered into any agreement with the workmen to employ Mr. Jenkins. After his appointment he at once advertised for a qualified assistant, and though qualified assistants for such a village were ill to find he might say that he now had one.

Cross-examined by Dr. JOHN JONES witness said that he had never promised to find Mr. Jenkins a respectable livelihood.

In reply to members of the Council Dr. HAVARD JONES said that he had to pay the expenses of the stable-boy and the horse's food in addition to the £15 a month. When the workmen first approached him they asked whether he could do anything for Mr. Jenkins and he told them plainly that he could not employ him in any way. The value of the appointments, exclusive of private practice, was about £500 a year.

Mr. GEORGE JENKINS, examined by Mr. LAWSON WALTON, Q.C., denied that he had attended a single case since the appointment of Dr. Havard Jones or that he had made any agreement with that gentleman to assist him in any way with the practice.

Cross-examined by Dr. JOHN JONES witness said he informed the workmen that in consequence of the action of the General Medical Council he could no longer act as he had been doing.

In reply to members of the Council he said he was not sure about the valuation of his house, but he thought it was £12 10*s*., and the horse and trap would be worth about £30. He had never attended any medical school, but he was apprenticed to a chemist in 1856. Under Dr. John Jones his income was about £200 a year, and he supposed the surgery and the horse and trap would cost him about £50 a year. The sum of £15 a month paid by Dr. Havard Jones went to his daughter, who looked after the house; he himself had never touched a penny of it. He denied that there was any truth in the suggestion that the workmen made it a condition with Dr. Havard Jones that he should employ him.

Mr. THOMAS EVANS, manager of one of the works, gave evidence to the effect that employment of Mr. Jenkins was not one of the conditions of the engagement of Dr. Havard Jones.

At this stage in the proceedings the Council adjourned.

SATURDAY, NOV. 26TH.

The Council met again to-day, Sir WILLIAM TURNER presiding.

The Case of James Havard Jones: Decision of the Council.

After approving the minutes of the previous sitting the Council proceeded *in camerâ* to consider its decision in the case of Dr. James Havard Jones. This matter occupied nearly an hour and a half, at the end of which time parties and strangers were readmitted and the President announced that the Council had come to the judgment that the charge against Dr. Havard Jones had not been proved to the satisfaction of the Council.

The Programme of Business.

Mr. HORSLEY asked leave as a matter of urgency to call attention to a breach of Standing Order, Chapter IV., Clause 7.

Sir JOHN BATTY TUKE protested against leave being given having regard to the important business which the Council had still to discuss.

Sir CHRISTOPHER NIXON said that while he regretted anything in the nature of waste of time they must be careful to see that their Standing Orders were not violated.

On a show of hands being taken 10 were held up for leave and 11 against it, but when the names and numbers were called for it was found that 12 members voted for leave and 11 voted against it.

Mr. HORSLEY accordingly proceeded with his notice. The Standing Order in question, he said, set forth that at the beginning of each session the Council should appoint a Business Committee whose duty it would be to prepare a daily programme of business containing subjects to be brought forward and notices of motion given by members and this programme would be printed and distributed from day to day as required. His only point was that he sent in to the Registrar a notice of motion for insertion in the programme, and while it was perfectly true that the subject to which the motion referred was brought up on an occasion when the Council was *in camerâ* he did not move that the Council go *in camerâ*, but, on the contrary, he desired that the subject should be discussed in public. He submitted that, in spite of what had occurred *in camerâ*, the motion should not be excluded from the programme of business but should have a place there.

Dr. MACALISTER, chairman of the Business Committee, said that the minutes of what was done *in camerâ* would be read when next they were *in camerâ*, and they would show that the motion had been adjourned without any action taken. In these circumstances he submitted it would have been most improper to put down the motion on the programme of business as if it had not been discussed.

After some slight discussion Mr. HORSLEY agreed not to press the matter.

Amendments in the Standing Orders.

The Council then went into committee to consider in detail a report prepared by the Executive Committee with regard to certain proposed alterations in the Standing Orders.

Sir DYCE DUCKWORTH said that the first recommendation in the report had reference to the work of committees and it proposed that the Standing Order on this subject should read:—

> Each committee shall once a year at least make a report upon the subject referred to it by the Council and each committee shall be convened at the discretion of its chairman.

He moved the adoption of this recommendation.

Mr. CARTER seconded the motion.

Mr. HORSLEY thought the summoning of a committee should not be left entirely in the hands of the chairman, but that it should be open to any two members to requisition a meeting.

Dr. MACALISTER expressed his preference for what the Executive Committee proposed.

Dr. BRUCE moved as an amendment to add the words "or upon the requisition of a majority of the committee," and Dr. LEECH seconded the amendment.

Mr. HORSLEY said he was prepared to accept this amendment.

The amendment on being put to the committee was adopted by a large majority and the words accordingly were added to the Standing Order.

Sir DYCE DUCKWORTH said that the second recommendation of the Executive Committee had reference to the Penal Cases Committee. It had been proposed that this committee like the others should be appointed annually, but the Executive Committee had not seen their way to propose this, being of opinion that it was undesirable to make frequent changes in the composition of the Penal Cases Committee. What they recommended was that vacancies in this committee should be filled as they occurred and then on the nomination of the Branch Council to which the member retiring or ceasing to act had belonged, and he moved accordingly.

Mr. CARTER seconded the adoption of this recommendation.

Mr. HORSLEY suggested that this matter should be postponed by the committee until a decision had been come to on the following notice of motion which stood on the programme of business in the name of Mr. Brown, viz.:—

That Standing Order IX. as far as relates to the Penal Cases Committee be and is hereby repealed and that the duties hitherto discharged by the Penal Cases Committee be referred to the respective Branch Councils.

Dr. MACALISTER pointed out that postponement would not be necessary if Mr. Brown were allowed to move this now as an amendment to the recommendation of the Executive Committee.

The committee decided to adopt this course of procedure.

Mr. BROWN said that while he had not expected his motion to be reached to-day, and consequently was not prepared with all his material to support it, he would undertake to move it. He could not say that he was at all satisfied with the way penal cases were presented to the Council by the Penal Cases Committee. He felt sure that many cases were presented to the Council which ought never to have been presented. He had no need to go far back for an example, for the last case disposed of was a most typical example. They had spent nearly two days in examining a case which one of his colleagues said never ought to have been brought before the Council at all. It surely was a very serious thing that the Penal Cases Committee should have reported to the Council a case which, in the opinion of one of the members of the Council, ought never to have come before the Council in the shape in which it did. Let the Council bear in mind that in the matter of attendance fees this single case had cost about 250 guineas and he put it to the Council whether it was reasonable or in accordance with common sense that thirty gentlemen should sit there in judgment upon a case, first as jurymen and then as judges, when a much smaller and less expensive body could do it.

The PRESIDENT: Stop one moment. Are you really going to argue that all these penal cases should be disposed of by the respective Branch Councils?

Mr. BROWN said he was coming to that. The proposition he desired to put before them was that all penal cases should be referred to the Branch Councils in the respective divisions of the kingdom where they occurred, that the Branch Councils should have power to call evidence and examine witnesses, and having consulted with a legal assessor should recommend to the Council the course which should be taken. All the evidence upon which the recommendation was based would be printed and circulated amongst the members of the Council, and the result would be that instead of going into the whole case, and each member of the Council cross-examining the witnesses and so much time being taken up, he Council would be able to get through the whole of the penal work in one afternoon's sitting, even if there were a dozen cases. The economy of this arrangement would be appreciated when they considered the difference between a sitting of thirty members at 5 guineas each and one of fourteen members at 2 guineas each.

The PRESIDENT, interrupting Mr. Brown, said he thought he was bound to show that the Council would be fulfilling the statute by acting in the manner he proposed.

Mr. BROWN said that the proceedings of the Council showed that they could remit important duties to their committees, and with regard to the Branch Councils Section 6 of the Act of 1858 said that to these "shall be delegated such of the powers and duties vested in the Council as the Council may see fit other than the power to make representations to Her Majesty in Council as hereinafter mentioned." If members consulted the minutes of twenty-five or thirty years ago they would see that at that time most important work was done by the Branch Councils, whereas nowadays they did practically nothing, and he submitted that if what he now proposed were adopted the arrangements would prove beneficial to the Branch Councils and to the General Council and to all the other interests concerned.

Mr. HORSLEY, seconding the amendment, said that he had considered the whole situation and had come to the conclusion that it would be better if a number of these cases were disposed of by the Branch Councils. Any serious case would, of course, be passed on to the General Council.

The PRESIDENT: A Branch Council cannot come to a decision to put a man off the Register.

Mr. HORSLEY: Nor do I propose that it should. But I say "disposed of" certainly because cases are disposed of now by the Penal Cases Committee.

The PRESIDENT: Disposed of in the same sense of not being proceeded with.

Mr. HORSLEY said that if a complaint were made by a practitioner to this Council the complaint might only be discussed by a small committee and might not be proceeded with, and altogether he thought the work would be much better done by the Branch Councils than by this committee and for this reason he seconded the amendment.

The PRESIDENT said he desired to point out that Mr. Brown in his speech went very much beyond the terms of his amendment, which were that the existing Standing Order be repealed and that the duties hitherto discharged by the Penal Cases Committee be referred to the respective Branch Councils. An important point in Mr. Brown's speech was that the Branch Councils should be empowered to take evidence. Now the Penal Cases Committee took no evidence in the sense of summoning people, in that respect being unlike the Dental Committee. Supposing they had the power to do what Mr. Brown proposed he did not see how it would effect economy either of time or money, because the evidence must be heard by the General Council before it pronounced judgment.

Mr. BROWN submitted that under the section of the Act of 1858 to which he had referred the General Council had power to delegate its powers to the Branch Councils. He should be glad to hear the views of Mr. Muir Mackenzie on the subject.

Mr. MUIR MACKENZIE said that this question was very fully and exhaustively considered during the time the late Mr. Marshall was President of the Council. He had a large number of consultations with Mr. Marshall and he received his instructions to draw for submission to Parliament a Bill which would have carried out in effect the proposal which Mr. Brown now put forward. But an opinion given a very considerable number of years ago by the late Lord Chief Justice Coleridge when at the bar and Lord Justice Bowen when at the bar was to the effect that for the purpose of an inquiry under Section 29 of the Act of 1858 the whole of the evidence must be heard by the Council and no erasure of a name under that section would be valid unless all the evidence for and against was heard and judicially determined upon by the whole of the Council. By the whole of the Council of course he meant subject to any member being absent. There was, he believed, no power to delegate any part of the inquiry upon which the practitioner was standing his trial either to the Branch Councils or any committee. Of course, a preliminary sifting to see whether there was any case at all with which the Council should be troubled was quite a different thing, though that in itself was a matter to be dealt with with some care, because in two of the cases taken to courts of law in which the procedure of the Council was questioned one of the points in each case was that evidence of facts had been before members of the committee of the Council before the inquiry, and it was contended that this was contrary to natural justice. It was contended that all the evidence should be heard before one body, but of course when it was shown to the court that all that had happened was that there had been a preliminary sifting of the complaint to see whether it ought to go before the whole Council it was seen that that was quite a different thing. All he was speaking of was the question whether the Branch Councils could hear evidence and make a report upon which the General Council could act. That he was distinctly of opinion would render the inquiry invalid and the practitioner whose name was erased upon such an inquiry would be entitled to apply for a mandamus to have his name restored. He hoped that upon a question of this

kind the Council would act with great caution, bearing in mind that when a practitioner's name was erased generally every kind of step in the procedure was vigilantly scrutinised to see if there had been any single false step by means of which the matter could be reviewed in a court of law, and it was a matter with which the Council might rest satisfied that all the attacks made upon the procedure had failed.

Mr. HORSLEY said he quite agreed that the whole evidence must be heard by the Council and all he contended was that this preliminary sifting would be more effectively and more economically done by the Branch Councils than by the Penal Cases Committee.

Dr. GLOVER believed that if Mr. Brown's proposal was adopted and the system of investigation by Branch Councils instituted it would tend to economy. Moreover, he thought it would be better if the facts submitted to the Penal Cases Committee were dealt with by men with local knowledge. For such reasons he was prepared to support the amendment.

Dr. BRUCE said he had all along been of opinion that the Branch Councils should have charge of penal cases arising in their respective districts. It was true that very few of these cases came from Ireland or from Scotland, but from whichever part of the United Kingdom they came it would be a great advantage to have them sifted by the Branch Councils.

Mr. BRUDENELL CARTER thought it was possible that some members of Council did not fully realise what it was that the Penal Cases Committee were called upon to do. That committee had no power to sift facts. All that was placed before them were statements of alleged misconduct on the part of practitioners, and all the committee could do was to see that these statements were substantiated by statutory declarations, and then if they disclosed an offence under the Medical Act to order the cases to go before the Council. As to whether an offence against the Medical Act was disclosed the committee were guided by the advice of Mr. Muir Mackenzie. If no offence was disclosed the committee, of course, would not be justified in carrying the case further. That outline of the committee's work showed that it was not the case that it had the sifting of facts. It seemed to him that it would be entirely inadvisable to call in the Branch Councils to do what two or three men in the exercise of common sense did very well. The Penal Cases Committee were valuable because of their knowledge of things which had come up in past years. They saved the Council a great deal of trouble and put it to no expense. He could not think that Mr. Brown had thought out the case he wished to make, and even if the suggested system were introduced he did not think it would lead in any instance to a result different from that which would be obtained under the present system.

Mr. BROWN, in replying on the discussion, explained that he had brought forward the proposal because he was not satisfied, as Mr. Carter was, that the Penal Cases Committee had done the work quite well. His impression was that the committee had failed to do the work quite well. According to his view they had blundered and thus had placed the Council in a position such as they must regret. From investigations which he had made it seemed to him that the committee did not know the facts of a case in which they had recommended prosecution.

Several members cried "No, no," and the PRESIDENT expressed the opinion that Mr. Brown was going beyond the limits of a reply.

Mr. BROWN reminded the Council that Mr. Carter had said "the committee did the work quite well." He (Mr. Brown) replied that they had blundered, that they had not sifted the facts. If he were not to be allowed to bring that point before the Council that day he certainly should take an opportunity of doing so on another day. He was not going to delegate his responsibility to a committee who had advised the Council in a way that they had not the courage to stand up and defend.

Dr. GLOVER rose to a point of order. He said that he was a member of the Penal Cases Committee and he was quite prepared to deal with the matter Mr. Brown was hinting at when it was raised in a proper form. He put it to Mr. Brown whether he thought it fair by innuendos and without giving names to say what he had said.

Mr. BROWN: Mr. Carter said the committee did the work quite well and I said they did not do so, and I gave the case alluded to as an instance that the committee had blundered.

Dr. GLOVER: I ask Mr. Brown if he thinks it fair by innuendo to make a charge against the Penal Cases Committee.

Mr. BROWN: You (Dr. Glover) know the case to which I refer. I do think it fair when a member of the Penal Cases Committee says that that committee has done its work quite well.

The amendment was then put to the vote. On a show of hands 5 voted for the amendment and 20 against it. The roll on Mr. Brown's demand was thereupon called, when 20 voted against it and 6 for it, 3 declining to vote. Mr. Brown's amendment accordingly was defeated.

The recommendation of the Executive Committee was then further discussed.

Mr. TOMES was of opinion that the recommendation was too drastic. There should, he said, be some means by which change in the membership should be secured other than that of filling vacancies when they occurred.

Mr. BROWN: Even the Executive Committee is elected every year.

Mr. HORSLEY: That is exactly the reason why I put my motion down on the paper. It does not follow that we do not reappoint them if they have done the work well. This suggestion of the Executive Committee assumes that there is going to be a wholesale change. That is not required or contemplated. All that is wanted is that the committee should be placed on the same footing as other committees of Council. There is no reason why the Penal Cases Committee should be a standing committee.

Mr. BRUDENELL CARTER moved the adjournment of the debate.

The Council resumed, and after an intimation by the PRESIDENT to the effect that many members had expressed the wish that the session should terminate on the Tuesday of the following week the Council adjourned.

MONDAY, NOV. 28TH.

The Council met again to-day, Sir WILLIAM TURNER being in the chair.

The Hunter Appeal Case.

Mr. HORSLEY asked that the first item on the programme be postponed in order that he might draw attention to the procedure of the Penal Cases Committee in relation to the Hunter appeal case now pending and move a resolution thereon.

On the question that leave be given to Mr. Horsley 6 members voted for leave and 21 against it. Leave was consequently refused.

Amendment of the Standing Orders.

The Council then went into committee and resumed the consideration of the report of the Executive Committee in regard to certain proposed amendments in the Standing Orders. When the consideration of the report was adjourned on Saturday Sir Dyce Duckworth had moved the adoption of the second recommendation of the committee, which was to this effect:—

That vacancies in the Penal Cases Committee should be filled as they occur and then on the nomination of the Branch Council to which the member retiring or ceasing to act has belonged.

Mr. BRUDENELL CARTER said that the Executive Committee in making this recommendation felt that the Penal Cases Committee differed in the nature of its functions from the other committees of the Council and that its constitution might therefore be different. It was a committee primarily formed to assist the President in his function of deciding whether a given complaint should or should not be submitted to the Council for its consideration. In the first instance the President merely invited a few of the members to confer with him upon questions of this kind and he finally asked the Council to appoint a small committee of members resident in London who could be easily brought together at any convenient time for this particular purpose. It seemed to him that the principle, undoubtedly sound, of changing the *personnel* of committees from time to time was not so applicable in this case.

Dr. BRUCE said he saw no reason why the principle should not apply to the Penal Cases Committee, and he felt certain that in working it out there would be no disposition on the part of the Council to make very frequent changes.

Sir RICHARD THORNE objected to the idea of appointing men for life to any committee.

Mr. TOMES said that if they passed this recommendation they would only be able to get a change upon the committee by indicting one or more of the members.

Dr. GLOVER intimated that he did not see his way to support this recommendation.

Sir RICHARD THORNE said he would move as an amendment:

That the Penal Cases Committee be elected annually in May in the same manner as the Executive Committee.

Dr. ATTHILL seconded this amendment.

This amendment was at once adopted and became the resolution of the committee.

Sir DYCE DUCKWORTH moved the adoption of the third recommendation, which in effect was that the Penal Cases Committee should meet four times a year if necessary or oftener if, in the opinion of the President, the occasion arose.

This recommendation was agreed to after a short debate.

The fourth recommendation, which had reference to the preparation and approval of abstracts of complaints, was also agreed to.

Sir DYCE DUCKWORTH moved the adoption of the fifth recommendation, but after some debate it was agreed to refer the subject matter back to the committee for further consideration.

The sixth recommendation, dealing with the procedure with regard to the service of the notice upon the accused practitioner, was agreed to.

Sir DYCE DUCKWORTH said that the seventh recommendation referred to the proposal of Mr. Horsley that "when any answer, evidence, or statement is forwarded, or application made by the accused person between the date of the issue of the notice and the date named for the hearing of the charge, copies thereof shall be immediately sent by the Registrar to each member of the Penal Cases Committee." The Executive Committee recommended that it was unnecessary to adopt the proposal seeing that the Standing Order provided that all members of the Council should receive not less than three days before the meeting copies of the documents in the penal cases to be brought before the Council. He moved the adoption of this recommendation.

Mr. HORSLEY moved as an amendment the proposal which Sir Dyce Duckworth had read. He considered it of vital importance that the committee should be possessed of all the documents sent to the office before the case came on for trial.

Mr. BROWN seconded the amendment.

Dr. GLOVER supported the amendment, saying that he did not see why the Penal Cases Committee should be deprived of prompt delivery of any new documents.

Sir CHRISTOPHER NIXON said that the delivery of fresh documents might enable the committee to withdraw the charge and thus save the time of the Council.

Mr. CARTER doubted whether the committee possessed power to withdraw the charge.

Dr. MACALISTER said he objected to the idea of the committee behind the back of the Council withdrawing a charge.

The PRESIDENT said he doubted whether the Council would give the committee power to withdraw a charge after the summons had been issued.

On a vote being taken the amendment was rejected and the recommendation of the committee adopted. The Council also adopted the eighth recommendation, which referred to the same subject.

Sir DYCE DUCKWORTH asked the Council to adopt the ninth recommendation, the effect of which was to empower the President if he thought fit to instruct the Registrar to ask the accused person for any explanation he might have to offer.

The PRESIDENT explained that he had found in practice that it was very desirable he should be invested with this power. It might very well happen that the accused person had a perfectly valid explanation to offer.

The recommendation having been adopted the Council resumed and Dr. MACALISTER brought up a report of the proceedings in committee of the whole Council.

It was agreed that the alterations made in the Standing Orders be adopted by the Council provided that Mr. Muir Mackenzie, as legal adviser, raised no objection to them of a legal character.

The Direct Representatives.

Mr. BROWN said that for several days there had appeared against his name in the programme of business two notices of motion to the effect that the time had come for giving the Scotch and the Irish practitioners power to elect each an additional Direct Representative. It had been suggested to him that these motions would come better from Scotch and Irish members and therefore he desired to withdraw them.

The PRESIDENT asked Mr. Brown whether he also wished to withdraw his motion with regard to the English practitioners.

Mr. BROWN: Oh, no.

Preliminary Examinations: an Important Report.

The Council next, on the formal motion of Sir JOHN BATTY TUKE, seconded by Dr. MACALISTER, received a report by the Education Committee on the revision of the list of recognised preliminary examinations in general education.

The report contained the following passages:—

Under instructions from the Council the Education Committee have during the past year been engaged in the revision of the list of recognised preliminary examinations, with a view to removing from it on the 1st day of January, 1900, those examinations which are of a lower standard than that prescribed by the Council in its resolution of Nov. 29th, 1897. They have, in reply to their inquiries, received a large amount of information from bodies and persons concerned and have also had to consider a number of other communications referred to them by direction of the President. It will be convenient to deal with these in some detail before proceeding to state the final conclusions of the committee in regard to them and to the subject in general.

The more important of the communications are:—

1. A "statement respecting the standard of the College of Preceptors' Second-class Examinations as compared with that of the University Junior Local Examinations."
2. A letter on the "Conjoint Examinations in Ireland by the Royal College of Physicians and Royal College of Surgeons," with accompanying papers sent by the secretary.
3. Letters from Dr. Alexander Mackay sent with other papers on behalf of the Educational Institute of Scotland.
4. Communications from the Secretary of State for the Colonies in reference to the recognition of the examinations, &c., of the University of Malta.
5. Certain other communications from Indian and Colonial universities and educational bodies in reference to their examinations.

I.—The Council of the College of Preceptors has drawn up and circulated for the information of the General Medical Council an elaborate "statement respecting the standard of the College of Preceptors' Second-class Examinations as compared with that of the University Junior Local Examinations." The Education Committee have given the statement their best consideration and have had before them a large body of evidence on the questions which it raises.

The committee have already reported to the Council their conclusion that the examination in question is not of the standard desired by the Council, and that in their opinion it should be removed from the list as from Jan. 1st, 1900.

The considerations which have confirmed the committee in their conclusion are the following:—

1. During the years 1892–98 returns have been made to the Council, on behalf of the Examining Boards for the Navy, Army, and Indian Medical Services, respecting those candidates for appointments who showed deficiency in general education. In the case of ten of these candidates the particulars given were insufficient to enable the preliminary examination to be traced; in the case of 29 the examination passed by the candidate was one of those at present recognised by the Council. In no less than 14 instances the examination by which the candidate had gained admission to the Students' Register was that of the College of Preceptors, while the remaining 15 candidates had qualified by one or other of *nine* of the recognised examinations. There were, in addition, 16 candidates who had qualified for registration by means of the examinations of the Society of Apothecaries or the Royal College of Surgeons in Ireland, but the examinations have now for some years been discontinued.

It thus appears that of all the examinations now on the Council's list the College of Preceptors' is that which most frequently gives rise to animadversion on the part of the examining boards and that the college contributes to the returns of comparative failure almost as many instances as all the other educational bodies together. It is also worthy of note that the returns report no single instance of deficiency in general education on the part of a student registered by means of a university local examination.

2. The committee have had before them the results of a careful investigation of the regulations, the papers of questions, and the answers of candidates who obtained pass marks in the College of Preceptors' examination and the conditions under which such candidates failed or succeeded in obtaining qualifying certificates. All the points on which a conclusion regarding the actual standard and quality of the examination should be based were taken into account. The result was a conviction that on its merits the examination was not sufficient to ensure that all who passed it had reached the standard of general knowledge and intellectual training desired by the Council.

3. The committee on a previous occasion expressed their thanks to the authorities of the College of Preceptors for the facilities accorded them in making their inquiries. Similar acknowledgments are due to the English university bodies controlling the local examinations for granting the committee permission to inspect the answers of candidates who are certified as having satisfied the requirements of the Council. These bodies have, moreover, placed at the disposal of the committee for its information full details as to their standards, methods, and statistics, and these, which are communicated confidentially, together with the published reports, have enabled the committee to form an estimate of the relative efficiency of the examination with which the College of Preceptors desire theirs to be compared.

The facts thus laid before the committee leave them no room for doubt (*a*) that the pass-standards of the College of Preceptors are in many respects inferior to those of the other junior examinations in England; (*b*) that even when measured by the ratio of passes to rejections, *among candidates who offer the subjects required by the Council*, the tests of the college are not so stringent; (*c*) that the average age of

the candidates for the college examinations is appreciably less than that of the candidates for the local examinations who offer the subjects required by the Council; (*d*) that the papers set by the college are in general of a more elementary character.

4. The committee have thought it desirable, in view of the contentions embodied in the statement of the college, to ascertain the views of experienced head-masters in various parts of England who appeared in the published lists as sending in pupils both to the college and to the university local examinations. The names of the head-masters were taken from the College of Preceptors' list in alphabetical order and the grammar and other secondary schools under their charge were so chosen as to be widely distributed throughout the country. A circular letter was issued inviting answers to the following questions:—

(1) In what order would you place the junior locals and the College of Preceptors' second class as regards standard of difficulty, comprehensiveness, time required for preparation, and facility of obtaining distinction?

(2) What is the average age and school-standing (form, class, or the like) of your candidates for the two classes of examinations respectively?

(3) Which do you consider the better and more satisfactory test of a good school education in mathematics, English, Latin, and modern languages?

Some fifty replies were received to about seventy circulars sent out. A few head-masters excused themselves from answering on the ground of insufficient experience of one or other examination; but forty-one sent more or less full answers. The great majority of the head-masters have no hesitation in pronouncing the College of Preceptors' second-class examination to be inferior in standard to the university locals; a small number regard the examinations as "on a par," with more or less of reservation; and only one or two declare it to be superior. As is natural, the answers differ as to details, but the general result is to the mind of the committee conclusive in regard to the point at issue.

5. The answers to the question regarding the age and school-standing of candidates for the respective examinations are less full and complete and contain particulars which might lead to the identification of the schools. But except in the case of "older and duller boys," who take the College of Preceptors' examination because they have failed in or are thought unlikely to pass the local examination, the replies show that in general the candidates for the latter are older and higher in school-standing. This result is in accordance with that deduced from the statistics furnished by the universities and by the college authorities.

6. The recognition for certain purposes of the College of Preceptors' second and third-class examinations by important public bodies is put forward in the statement as implying that these examinations are thereby declared equivalent for all purposes to the other recognised junior examinations. This inference appears to the committee to be untenable. The list published by the Medical Council itself includes a large number of examinations of various grades, from that for a degree in arts downwards, all of which are recognised for the purpose of students' registration. But it cannot be maintained that the Council thereby pronounces these examinations to be equal in standard or regards them as equivalent, except in so far that they all satisfy the *minimum* conditions which it imposes. The fact that the Head-masters' Association includes in its "junior list" all the various "professional preliminary examinations," without distinction, and that the London Technical Education Board and the Education Department include the third division of the College of Preceptors' examination in their recognition, shows that in like manner the lists of these bodies are not constructed on the principle of parity among the examinations referred to. The lists merely indicate that all fulfil certain *minimum* requirements, and, further, that these *minimum* requirements are less stringent than those insisted on by the Council. The inference as to equivalence which the statement suggests is therefore more than doubtful *a priori*. But the committee have thought it desirable to make direct inquiries on the subject and have ascertained definitely that no such inference is authorised or can be maintained. The committee are thus fully justified in affirming that their own view of the argument put forward by the College of Preceptors is that taken by the "independent and unbiassed authorities" concerned.

The committee are for these reasons unable to admit the conclusions of the statement of the College of Preceptors. They are convinced that the present standard of the second-class examination is not sufficiently high for the purposes of the Council and they propose accordingly that its recognition should be withdrawn. Should, however, the authorities of the college see fit to establish a preliminary examination of a standard equal or superior to that of the other junior examinations recognised by the Council, the committee would be prepared to include such an improved examination in the list. The minimum standard required would be intermediate between those of the existing first-class and second-class examinations of the college; and the committee assume that the necessary facilities for inspection granted by other examining bodies and hitherto granted by the college would be continued. Without these facilities the committee would be unable to assure themselves that the required standard was duly established and continuously maintained. The committee accordingly propose to make it a condition of recognition in the case of this and of the analogous examinations in Scotland and Ireland that specimens of the answers sent up by successful candidates should from time to time be submitted for inspection.

II.—The committee do not fail to recognise that the Royal Colleges of Ireland have made a serious effort to improve the character and standard of their preliminary examination. The Examining Board now consists of men of experience and standing in the educational world who are otherwise unconnected with the Colleges. The regulations have been revised so as somewhat to widen the scope of the examination. And it is proposed to raise materially the standard for passing "so as to approximate it to that of the Middle Grade Intermediate Examination." If the design thus outlined should be fully carried out some of the objections which have for long been taken to this examination would be fairly met and the committee would be prepared to assent to the recognition of the new examination, at least until the time arrives when it is possible to arrange in Ireland for a convenient public examination under the auspices of a competent educational authority independent of the licensing corporations. The Intermediate Educational Board of Ireland appears to fulfil this condition. It is in direct relation with the public and other schools and is conversant with the conditions of Irish primary and secondary education, of which it, to a great extent, controls the standards; by its constitution it is calculated to be independent in its judgments; and it possesses the machinery and the means for conducting its examinations with efficiency. The objections raised by the Colleges to the discontinuance of their own examination in favour of those of the Intermediate Education Board practically reduce themselves to two—(1) that the intermediate examinations are limited to candidates of definite ages and (2) that they are held at a time of the year which is inconvenient to some intending students of medicine. These objections the Board has hitherto not seen its way to meet, apparently on the ground that it lacks the statutory powers to do so. The committee, however, understand that the powers and functions of the Board have been referred to a special commission for consideration and an opportunity is thus afforded for making representations on the subject to those in authority in Ireland. If the Board were prepared to hold in April and September a supplemental examination of a standard approximate to that for middle grade certificates and open to pass candidates without limitation of age, the difficulties put forward by the Royal Colleges would be removed. There would then remain no valid reason against the adoption of the reiterated recommendation of the Council that the Conjoint Preliminary Examination should be discontinued. The committee accordingly recommend that the Council should make a formal representation to the Commissioners on the subject.

III.—The Educational Institute of Scotland, like the Royal Colleges in Ireland, has frankly accepted the decision of the committee that the standard of its preliminary examination was insufficient for the purposes of the Council. Early in the year it announced its intention of issuing new regulations with the object of materially improving the examination and raising its standard. These have now been published. In the opinion of the committee the Preliminary Examination has been much improved by the changes now adopted, and the examination papers submitted are of a more advanced character. Samples of the answers of candidates who just succeeded in passing at the last examination have been submitted and show that an appreciable advance has been made in regard to the *minimum* requirements. There is thus every reason to expect that the method of marking and the pass-standard will prove, on inspection of the results during 1899, to be sufficiently stringent, and the new examination of the Educational Institute will accordingly be entitled to recognition as a junior examination.

IV.—In view of the fact that Malta is within Her Majesty's Dominions the committee are of opinion that it would be more appropriate to give explicit recognition to its University and they accordingly propose to place the University Matriculation Examination on the list with those of the other colonial universities.

V.—The communications from Indian and Colonial Universities have enabled the committee to revise the list with the aid of the latest information on the present character and standard of the examinations it includes. Another communication is from an American University in the Western States and asks that its matriculation examination may be recognised. The particular examination in question does not fulfil the conditions prescribed by the Council and is therefore ineligible for recognition. It has not been the practice of the Council to place any American examinations on its list, though individual students from the United States who were able to present clear evidence as to the character of the Arts Examination they had passed have been repeatedly admitted to registration. The committee propose to take into consideration the question whether a more general recognition might not be extended to certain of the American universities in view of the fact that in recent years a considerable advance has been made in regard to their curriculum and requirements for graduation in medicine. Until, however, the committee have been able to give fuller study to the question thus raised they do not propose to offer any definite recommendations thereon to the Council.

The list of the examinations which in the opinion of the committee fulfil the recently increased requirements of the Council, and which they accordingly think should be recognised for purposes of registration on and after Jan. 1st, 1900, is hereto appended. But in presenting it the committee desire it to be known that they contemplate the early introduction by the Council of a further increase in the stringency of the educational tests to be applied to intending students of medicine.

By the coöperation of the various educational authorities concerned much may be done to raise the standard even of the junior examinations, and a number of these authorities have, at the request of the Council, already undertaken to take measures in this direction. The Council, moreover, by its own action in henceforth requiring another language, in addition to Latin and English to be taken up by students, has materially enlarged the scope of its demands. In these two ways preparation is being made for the transition from the standard of the junior to that of the senior examinations. This transition the committee are desirous of effecting so soon as the educational conditions of the country will permit, but they believe that a gradual and continuous advance along their present lines will be more likely to bring about a substantial improvement in the general education of medical students than any sudden and revolutionary change in the formal requirements of the Council. By exercising steady pressure where necessary on the educational authorities in favour of the adoption of better and more searching methods, by withdrawing recognition from examinations which are proved to have become inefficient, and by careful supervision or inspection of all, the committee believe that they can give material aid in bringing about the desired improvement and they have every reason to expect that their efforts will be supported and confirmed by the Council at large.

LIST OF EXAMINATIONS IN GENERAL EDUCATION TO BE RECOGNISED AS FROM THE 1ST DAY OF JANUARY, 1900.

I.—University Examinations held in the United Kingdom.

University of Oxford.—Junior local examinations (certificate to include all the required subjects at one time). Senior local examinations (certificates to include the required subjects). Responsions (certificate to be supplemented by others showing that the required mathematical subjects have been passed in). Moderations (certificates to include the required subjects). Final examination for a degree in Arts.

University of Cambridge.—Junior local examinations (certificate to

(include all the required subjects at one time). Senior local examinations (certificates to include the required subjects). Higher local examinations (certificates to include the required subjects). Previous examination (certificates to include the required subjects). General examination (certificates to include the required subjects). Final examination for a degree in Arts.

University of Durham.—Examination for certificate of proficiency (certificate to include all the required subjects at one time). Preliminary examination in Arts for graduation in Medicine and Science (certificate to include the required subjects). Final examination for a degree in Arts.

University of London.—Matriculation examination (certificate to include the required subjects). Final examination for a degree in Arts or Science.

Victoria University.—Preliminary examination (certificate to include all the required subjects at one time). Final examination for a degree in Arts or Science.

University of Wales.—Matriculation examination (certificate to include all the required subjects at one time). Final examination for a degree in Arts.

University of Edinburgh.—Junior local examination (certificate to include all the required subjects at one time). Senior local examination (certificates to include the required subjects). Preliminary examination for graduation in Medicine and Surgery (certificate to include the required subjects). Preliminary examination for graduation in Arts or Science (certificate to include the required subjects). Final examination for a degree in Arts or Science.

University of Aberdeen.—Junior local examination (certificate to include all the required subjects at one time). Senior local examination (certificates to include the required subjects). Preliminary examination for graduation in Medicine and Surgery (certificate to include the required subjects). Preliminary examination for graduation in Arts or Science (certificate to include the required subjects). Final examination for a degree in Arts or Science.

University of Glasgow.—Preliminary examination for graduation in Medicine and Surgery (certificate to include the required subjects). Preliminary examination for graduation in Arts or Science (certificate to include the required subjects). Final examination for a degree in Arts or Science.

University of St. Andrews.—Preliminary examination for graduation in Medicine and Surgery (certificate to include the required subjects). Preliminary examination for graduation in Arts or Science (certificate to include the required subjects). Final examination for a degree in Arts or Science. Final examination for the diploma of L.L.A.

University of Dublin.—Public entrance examination (certificate to include the required subjects). Examination for the first, second, third, or fourth year in Arts (certificate to be signed in the approved form by the medical registrar of the University). Final examination for a degree in Arts.

Royal University of Ireland.—Matriculation examination (certificate to include the required subjects). Final examination for a degree in Arts or Science.

Oxford and Cambridge Schools Examination Board.—Lower certificate (to include all the required subjects at one time). Higher certificate (to include the required subjects).

II.—Government Examinations held in the United Kingdom.

Scotch Education Department.—Examination for lower grade leaving certificate (to include all the required subjects at one time). Examination for higher grade or honours leaving certificate (to include the required subjects).

Intermediate Education Board of Ireland.—Junior or middle grade examination (certificate to include all the required subjects at one time). Senior grade examination (certificates to include the required subjects).

III.—Examinations by Chartered Bodies held in the United Kingdom.

College of Preceptors.—Examination for a first-class certificate (to include all the required subjects at one time).

Educational Institute of Scotland.—Preliminary medical examination (certificate to include all the required subjects at one time).

Royal Colleges of Physicians and Surgeons in Ireland.—Preliminary examinations (certificate to include all the required subjects at one time).

(*** The Council has recommended that this examination be discontinued.)

IV.—Examinations held out of the United Kingdom.

University of Malta.—Matriculation examination.
University of Calcutta.—First examination in Arts.
University of Madras.—First examination in Arts.
University of Bombay.—Matriculation examination.
Punjab University.—Intermediate examination in Arts.
University of Allahabad.—Intermediate examination in Arts.
Ceylon Medical College.—Preliminary examination.
University of McGill College, Montreal.—Matriculation examination.
University of Bishop's College, Montreal.—Matriculation examination.
College of Physicians and Surgeons of the Province of Quebec.—Matriculation examination.
Universities and Colleges of the Province of Ontario.—Departmental Arts matriculation examination (conducted under the direction of the Provincial Education Department).
University of Manitoba.—Preliminary and previous examinations.
University of New Brunswick, Fredericton.—Matriculation examination.
University of Mount Allison College, New Brunswick.—Matriculation examination.
College of Physicians and Surgeons of New Brunswick.—Matriculation examination.
Dalhousie College and University, Halifax, Nova Scotia.—Matriculation examination.
Provincial Medical Board of Nova Scotia.—Preliminary examination.
Newfoundland Medical Board.—Preliminary or matriculation examination.
University of Melbourne.—Matriculation examination.
University of Sydney.—Matriculation examination. First year examination in Arts. Senior public examination. Entrance examination for Medicine and Science.
University of Adelaide.—Senior public examination.
University of Tasmania.—Senior public examination.
University of the Cape of Good Hope.—Matriculation examination.
University of Otago.—Preliminary medical examination.
University of New Zealand.—Preliminary examination for medical students.
Codrington College, Barbados.—Examinations qualifying for a degree in Arts at the University of Durham.
Foreign Universities in Europe.—The German Arbiturienten-Examen of the Gymnasia and Real-gymnasia; examinations entitling to the French diplomas of Bachelier ès Lettres and Bachelier ès Sciences; and other corresponding entrance examinations to foreign universities in Europe.
Egyptian Government.—Examinations for the secondary education certificate.

Sir JOHN BATTY TUKE, chairman of the Educational Committee, in moving the adoption of the report said that he did not intend to enter into detail with reference to its contents, as the report during his continued ill-health had been drafted by Dr. MacAlister, and Dr. MacAlister would make any necessary explanation. He, however, might say a few words as to the general principles which had actuated the Education Committee in drawing up the report. They had been actuated by the very strongest desire to raise the standard of preliminary education in connexion with the medical profession. But the question arose as to how this could be done. At one period of the committee's deliberations they thought that the simplest and best manner in which to place these preliminary examinations would be to cut out all junior examinations, but subsequently they came to the conclusion that any such drastic measure as that without full notice would be premature. Personally he was of opinion that it was to the direct interest of the public that the standard of medical education should be raised. He was also of opinion that the best way of raising the standard of medical education was the raising of the standard of preliminary examination in general knowledge, inasmuch as by establishing a higher standard of preliminary education they would get men sufficiently well trained to enter upon the study of the higher professional subjects. He was further of opinion that it was necessary to gradually approximate the meshes of the net and that they should not by any *per saltum* action complicate the situation so seriously as would have been done had the original proposition been carried out. There was no doubt in his mind that if the original proposition had been persevered in the supply of medical students would have fallen off to such a considerable extent that it would not have been beneficial to the country. As an indication of that they would find in the figures showing the results of examinations, as presented in their minutes for 1897, that the percentage of rejections of candidates for the medical profession was between 24 and 63 per cent. He had not calculated the average, but he felt certain that the percentage of rejections was nearer 50 than 40 per cent. The committee had to meet that. To a considerable extent they believed that they had been able to meet it, as they thought that by steady pressure on the educational bodies they would be able to further improve the preliminary examinations. They trusted that the time was not far off when they should be able to cut off the junior examinations. He did not think it would be a fair thing to cut off these junior examinations until at least five years after the promulgation of this new report by the committee, and until such times as they could see their way to accept none but senior examinations they would do all in their power to raise the standard of the junior examinations. He hoped the Council would support the committee in their effort.

Some conversation followed. Instead of proceeding with Sir John Batty Tuke's motion it was agreed, on the proposal of Dr. MCVAIL, that the Council should go into committee and consider the report. Thereupon it was moved by Sir JOHN BATTY TUKE that the report be approved.

Dr. MACALISTER, in seconding, went over most of the details brought out in the report. He showed that of the various examinations for candidates for the medical profession which were recognised by the Council only three had been called in question—the College of Preceptors' second-class examination in England; the examination of the Educational Institute of Scotland; and the examination of the Conjoint Board for Ireland. While the two latter had shown an appreciable readiness to meet the Council's requirements the College of Preceptors had challenged the finding of the Council that their second-class examination was inferior. But after a long and exhaustive inquiry, as the committee's report showed, the committee were forced to the conclusion that the examination in question was inferior to the lowest requirement of the Council—the University junior local

examinations. The college endeavoured to show that their results were superior to those obtained in the local examinations, but in the attempt they selected a fallacious basis, and the fact really was that the results were the reverse of what the college authorities represented them to be. He proceeded to express satisfaction with the course adopted by the Educational Institute of Scotland and the Conjoint Board for Ireland and jocularly suggested that the time was opportune for drawing closer the bonds between this country and the United States in regard to American entrance examinations which the medical authorities of this country had never yet recognised. They might see whether examinations of some of the American universities were not up to the Council's standard, and the committee proposed to get information on the subject. As to the future he was one of those who thought that the Council should require a standard of preliminary examination considerably higher than the junior examination of the present day—an examination which might be effectively described as a senior rather than a junior examination. Junior examinations at present practically represented nine-tenths of the medical students. The Council certainly could not at once take the step of doing away with these junior examinations, but he hoped that it would be possible for them, within the five years referred to by Sir John Batty Tuke, to adopt the standard which was now known as "senior."

Sir RICHARD THORNE, who also favoured the view that candidates for the medical profession should be required to pass the "senior" examination, questioned whether the head-masters who had given their opinion as to the relative value of the examination and the College of Preceptors and the university "locals" had not been misled by the way in which the case had been stated to them. Supposing they had not, what he wished to contend was that the difference between 30 per cent. of passes or rejections in the "locals" with 33 in the College of Preceptors' examinations, or *vice versâ*, was practically *nil*, so far as the Council's idea went of securing a higher and uniform standard. The university junior examination ought to go with the examination of the College of Preceptors. The boys who passed these "locals" were in the majority of cases under fifteen years of age. It was not the intention of the Council that boys under sixteen years should be accepted as candidates for entrance to the medical profession, and these junior examinations did not produce youths of that age. The "senior" examinations did, for he believed he was absolutely correct in saying that the average age of candidates who passed the two senior examinations was sixteen and a half years. That was practically the age they were aiming at and these two senior examinations gave boys of the training and age that were wanted. They could not at once do away with the junior examinations they had agreed to accept as sufficient, but he should like the Council to agree with the view that after the expiration of the next five years they should not accept any of these junior examinations at all.

On the motion of Dr. LEECH the debate was adjourned and the Council resumed.

Commissions in the Navy.

A table of figures showing results of competitions held on Oct. 31st last for commissions in the medical department of the Royal Navy was received and entered on the minutes and thanks were given to the Director-General of the department for furnishing the information contained in it.

Registration Fees.

Dr. LITTLE, with the consent of the seconder, Dr. ATTHILL, obtained leave to withdraw from the programme of business a notice of motion to propose "That on and after Jan. 1st, 1899, a fee of 10*s.* be charged by the registrars of the Branch Councils to every person applying to be registered as a medical student."

The Council adjourned.

TUESDAY, NOV. 29TH.

The Council met again to-day and resumed work, Sir WILLIAM TURNER being in the chair.

The Preliminary Examinations.

The Council went into committee of the whole Council and proceeded with the consideration of the report of the Education Committee with regard to the revision of the list of recognised preliminary examinations.

Dr. LEECH said that the last paragraph of the report was not so satisfactory as he could wish. It seemed to him to be an incentive to those who conduct the junior examinations to raise the standard of those examinations and so keep them on the list. Now he thought it should be distinctly understood that within a certain time these examinations were to be removed from the list. He was sure all the members of that Council felt that it was impossible to raise them to a proper position. It had been suggested that by removing them from the list they might injure the public but he failed to see that the number of students would be limited. His impression was that they would get a better set of men, and that men who at present were only half educated would be properly educated. He suggested that the Education Committee should consider whether it might not be desirable to strike off all the junior examinations in five years.

Sir DYCE DUCKWORTH said he must express his personal disappointment with this report. He had hoped the committee would have seen its way to a much stronger report in which the entrance examinations to their profession were considerably tightened. It was little short of a scandal that these examinations should be so easy. He thought it would be for the benefit of the scholastic profession as well as for those who were going to enter upon the study of medicine that that Council should put down some decided time limit for these junior examinations. If a limit were fixed then the schools would work up their pupils to the required standard.

Sir CHRISTOPHER NIXON bore testimony to the great care and pains which the Education Committee had bestowed upon this work. He knew nothing about the College of Preceptors, not even where it was situated, but it seemed to him from the report that its junior examination was not up to the required standard. That was proved by the statistics and by the examination papers and by the independent and unbiased opinion of 35 of the head-masters of various public schools. On this last point he might say that he did not see the force of the objection raised by Sir Richard Thorne as to the reports of these head-masters. These gentlemen were made aware of the question at issue.

Sir RICHARD THORNE said that since speaking yesterday he had seen the covering letter sent with the inquiry and he was bound to admit that his inference was not justified.

Sir CHRISTOPHER NIXON said he was glad to hear this from Sir Richard Thorne. As to the conjoint examination of the Royal Colleges in Ireland he might say that it was the strong opinion of the Committee of Management that it would be desirable to have a preliminary examination conducted by a body not connected in any way with the professional colleges, and he hoped that the Council would take a very strong part in recommending the establishment of an examination by the Intermediate Education Board which would be suitable to the wants of medical students. Of one thing the Council might be sure and that was that so long as the conjoint examination continued it would be the endeavour of the Royal Colleges to maintain in it a high standard.

Mr. CARTER said he hoped that the Council would stiffen its back in connexion with this matter and that its resolution would strengthen the hands of the committee to the extent of enabling a definite time to be fixed, after which the junior examinations would not be recognised. By giving sufficient notice neither the teachers nor the students would be taken by surprise.

Mr. TICHBORNE said that the body he represented, the Apothecaries' Hall of Dublin, had given up its preliminary examination and he would like to get an assurance from the representatives of the Royal Colleges in Ireland that in the event of the Intermediate Education Board establishing an examination they would discontinue their conjoint examination.

Dr. ATTHILL replied that he had no hesitation in giving an assurance on behalf of the Royal College of Physicians of Ireland provided that the new examination met the requirements of the Council and was suitable as to age and dates and standard.

Sir PHILIP SMYLY gave a similar assurance on behalf of the Royal College of Surgeons in Ireland.

Mr. BROWN said he was disappointed that the report did not go further. He was sorry that the committee had not seen their way to strike off the list the junior examinations of Oxford and Cambridge, which appeared to him to be little superior to the junior examination of the College of Preceptors. On the previous day a medical practitioner of some standing told him that he passed the Cambridge examination at the age of thirteen years.

Sir WILLIAM THOMSON suggested that three or at the most four years' notice should be given of the higher standard. As to the Royal Colleges in Ireland he assured the Council that both bodies were most anxious to see an examination established by an independent authority.

Dr. MCVAIL submitted that the Council was now in a position to fix a date and he would be prepared to move :—

That the transition from the standard of the junior to that of the senior examinations which the Education Committee in their report recommend shall take effect from Jan. 1st, 1905.

The PRESIDENT said that the following motion had been put into his hands by Dr. Leech, namely :—

That the Education Committee be requested to consider and report to the Council during the next session as to the earliest date at which, in their opinion, it will be practicable to raise the minimum requirements of the Council as regards preliminary examinations to the standard of the senior and higher grade examinations at present recognised.

Dr. PETTIGREW said he was quite convinced of the need for raising the standard, but he had some difficulty as to when and how it should be raised. Education must precede examination and in Scotland secondary education was not in a satisfactory state, and he held that time would require to be allowed in order that secondary education might be improved.

Dr. HERON WATSON thought this was clearly a case for reasonable warning being given.

Dr. MACALISTER read to the Council the covering letter sent to the head-masters which, he said, put the whole question at issue before them. With reference to the College of Preceptors it would be remembered that he said that the college made a certain claim with reference to the action of the Education Department. That claim was challenged. He had seen the Vice-President of the Council who had authorised him to read the following letter, viz. :—

Adverting to your letter dated the 27th inst. I am directed to state that you are right in supposing that the recognition by the Education Department of the second-class certificate examination of the College of Preceptors as practically equivalent to the third-year examination prescribed under the code for pupil teachers does not imply that the examination is of equal standard and range for all purposes with the Oxford and Cambridge junior local examinations which are similarly recognised for candidates desiring to be apprenticed for one year as pupil teachers.

In the list of recognised examinations there was a mistake under the heading of the Victoria University ; the entry should read : "Preliminary examinations (certificate to include the required subjects)."

Dr. LEECH then formally moved the adoption of the motion read by the President and Dr. LITTLE seconded the motion.

Sir J. BATTY TUKE and Dr. MACALISTER recommended the Council to accept the motion.

Dr. MCVAIL said that in view of the action of the chairman of the committee he would not press his motion but he would propose it again if within a reasonable time the committee did not bring forward a definite time limit.

The report was then adopted and the motion of Dr. Leech became the finding of the Council.

The Council went out of committee and approved the proceedings in committee of the whole Council.

The Examination of the Apothecaries' Hall of Dublin.

Sir DYCE DUCKWORTH brought up reports by the Examination Committee on two examinations held by the Apothecaries' Hall of Dublin.

Mr. TICHBORNE gave explanation with regard to certain criticisms passed by the committee in these reports.

Sir RICHARD THORNE commented on observations made by the inspector with regard to over-marking.

Both reports were approved by the Council.

Midwives Bill.

On the motion of Dr. MACALISTER the Council entered on the minutes a report by the committee appointed by the General Medical Council on May 25th last to confer with delegates from a committee of the promoters of the Midwives Bill, together with an appendix containing a report of the proceedings at the conference on June 25th last. The Council agreed to go into committee on the report, which contained the following :—

The sixth point set out by the delegates relates to the expenses of carrying out the Act. The delegates point out that since their Bill is a private members' Bill they cannot insert a clause providing for any payments out of the exchequer. This, doubtless, is so. But whatever the remedy may be it seems quite clear that the cost of carrying out the provisions of any such legislation, however desirable that legislation may be in the interests of certain portions of the community, ought not to be paid out of the funds of the General Medical Council. The advantages accruing from such legislation will primarily concern the public and the licensed midwives, whereas no one can suggest that it will pecuniarily benefit the medical and dental professions, who by payments on registering their diplomas provide the only funds which are at present at the disposal of the Council.

Your committee have reason to believe that the Lord President of the Council is desirous of receiving some expression of opinion from the Council as to how this matter may best be met ; and they would therefore make the following proposals to the Council :—

1. That the duty of fulfilling any duties that may be imposed upon the Council under an Act regulating the practice of midwives be delegated to a special committee after the precedent followed in the case of the Dental Committee.

2. That so long as any such Act is only made to apply to England and Wales the Special Committee consist of five members of the English Branch Council.

3. That, in the first instance, the Special Committee meet in London twice a year.

4. That the fees, &c., for attendance on this Special Committee be the same as those paid to the members of the Executive and Dental Committees.

Sir RICHARD THORNE, as chairman of the committee, asked that the report, which he said had been circulated two months ago, should be held as read. There was one point in connexion with it that he thought he must draw attention to—namely, the expense of carrying out any Act regulating the practice of midwives. He had received an intimation from the Government that if any expense was likely to be involved by the General Medical Council in carrying out such an Act they should state what they thought it would be before the Civil Service estimates were made up for the year from March next. In reply he had made it clear that the fees which were paid by dental and medical students to the General Medical Council could not be used for carrying out an Act relating to midwives and any expense incurred must be paid from a grant by the Government. He proceeded to show that the grant must not be less than £300 a year and concluded by moving the adoption of so much of the report as preceded the recommendations.

Dr. LOMBE ATTHILL, in seconding the proposal, said that if any Midwives Act applied to Ireland there should be at least one representative of that country on the committee.

Sir W. THOMSON and Mr. HORSLEY expressed the view that the estimate of the expenditure under such an Act as that in question was too low.

The PRESIDENT thought the Council should leave it to Sir Richard Thorne and himself to arrange about the matter.

Dr. LOMBE ATTHILL thought there might be appeals from the Midwives' Board against regulations of the Council, and if the Council had to spend, say, a day in debating any one of those they ought to be paid therefor.

Dr. GLOVER was of opinion that the expression of this view came too late, seeing that the Council without remuneration had been discussing the midwives question for the last ten or twelve years.

Sir W. GAIRDNER did not want to intervene in regard to this financial question. What he wished to say was that the result of reading the report before them made him very desirous that the special committee proposed would be a strong committee that would hold well to the principles which the Council had laid down. He could not read the report of the conference between their committee and the promoters' delegates without feeling that the Council were to be opposed tooth and nail. The delegates said they would accept in the abstract the licensing of midwives instead of their registration, but then would they not try to get the Council's licensing proposal defeated in Parliament, so that the resolution of the Council, which went towards the suppression of incompetent, ignorant, and bad characters, would come to naught? It seemed to him that there was a deliberate intention and attempt to keep up the "Gamp"—an attempt to protect the "Gamp." Although the delegates did not say that they were going to oppose the Council's proposal in Parliament he believed they would do it.

Mr. BROWN thought that Sir W. Gairdner had called attention to a point which was exceedingly important. Where should they be if they accepted this report? Having read twelve of the forty-eight pages of which it consisted he thought he was far in advance of other members of the Council on the subject.

The PRESIDENT : The report was circulated weeks ago.

Sir RICHARD THORNE : At least two months ago.

The PRESIDENT : Then, Mr. Brown, if you have not read the whole of the report it is not because the committee did not give you opportunity.

Mr. BROWN : There are members who have not read it at all.

The PRESIDENT : Speak for yourself.

Mr. BROWN: Well, I prefer that the old committee—the committee on the subject that existed before this Conference Committee—should be reappointed with instructions to watch any legislation which may be proposed early next year and take any necessary action to bring the matter before the Council.

Sir RICHARD THORNE said that the Conference Committee ceased to exist when the conference was over. He should not stand in the way of the reappointment of the previous committee.

Dr. MACALISTER urged that they ought to deal with the four recommendations of the committee before they proceeded to consider the question of reappointment of the conference or other committee.

The motion to adopt the non-contentious part of the report was then agreed to.

Sir RICHARD THORNE thereupon moved a modification of recommendation 1—namely:—

That the duty of fulfilling any functions that may be imposed upon the Council under an Act regulating the practice of midwives be delegated to a special committee and that the committee report to the Council.

Dr. LOMBE ATTHILL seconded and the motion was agreed to.

Sir RICHARD THORNE next moved:—

That so long as any such Act is only made to apply to England and Wales the special committee consist of five members of the English Branch Council.

Dr. ATTHILL, in seconding, remarked that it might be as well to inform the Lord President of the Privy Council that the expenses required would be greater if the Act was extended to Ireland.

The PRESIDENT explained that that could be stated in a covering letter.

The motion was agreed to.

Sir RICHARD THORNE further moved:—

That in the first instance the special committee meet in London at least twice a year.

Dr. MACALISTER reminded the Council that what this committee would have to do would simply be to approve of the rules made by the Midwives Board. Their duties for the first year would be heaviest. After the first year there would be nothing to do for a long time.

The motion was agreed to.

Sir RICHARD THORNE, accepting a suggestion made by Mr. Horsley, next moved:—

That the sum allowed by the Treasury to the General Medical Council for the performance of any duties imposed upon it under an Act regulating the practice of midwives should, in the opinion of the Council, be adequate to cover both the general and special expenses of the Council and its special committee.

Mr. HORSLEY seconded and the motion was also agreed to.

The Council resumed and the report of proceedings in committee was adopted.

Mr. BROWN moved for a committee to watch proceedings on the midwives question in the forthcoming session of Parliament.

Discussion followed and ultimately, on the motion of Mr. BRYANT, seconded by Mr. TEALE, it was agreed to reappoint for the purpose just mentioned, the Conference Committee, consisting of Sir Richard Thorne, Dr. Glover, Dr. MacAlister, and Sir Christopher Nixon, with Mr. Horsley as an additional member.

In the course of the discussion Dr. MCVAIL had remarked that he did not want any Scotchman to be on the committee.

Thereupon the PRESIDENT pointed out that Dr. MacAlister, who was a Scotchman, had been named.

Dr. MCVAIL indicated that he did not object to the Cambridge Professor's appointment as, he said, all the Scotch was out of Dr. MacAlister long ago.

Registration of Medical, Surgical, and Dental Companies.

The Council next received a report from the committee on amendments to the Companies Acts which was in the following terms:—

At the meeting of the General Medical Council, May 30th, 1898, the following resolution, which had been arrived at *in camerâ* on May 28th, was placed upon the minutes:—

"That the President, Mr. Tomes, and Mr. Horsley be a committee to take such steps as they deem most effective to induce the Government to insert a clause in the Companies Act Amendment Bill, now before Parliament, with the object of preventing the registration of companies to carry on medical, surgical, and dental practice."

The committee was appointed in consequence of information brought before the Council by Mr. Tichborne that a drug company in Cork, registered under the Companies Act, had intimated that one of its objects was to carry on the business of physicians and surgeons. It was also pointed out to the Council that encroachments on the practice of other professions and businesses for the legal pursuance of which a personal qualification was necessary were being conducted under cover of the Companies Acts. The attention of a departmental committee of the Board of Trade, sitting under the presidency of Lord Davey, had been called some time previously by the British Medical Association, the British Dental Association, the Medical Defence Union, the Royal College of Veterinary Surgeons, and the Pharmaceutical Society, to the nature of these infringements of professional Acts, but that committee was of opinion that the matters complained of did not properly fall within the scope of the terms of the reference made to them by the Board of Trade. They expressed, however, in their report the hope that one of the clauses of the Bill which they had drafted might have some effect in providing a remedy.

The acknowledgment by a Government committee that a grievance existed was an important step gained and the bodies named approached Lord Herschell with the view of obtaining his assistance in introducing an amendment in the Companies Act Amendment Bill, which was then being brought by the Government before the House of Lords. There was reason to believe that the Board of Trade would not oppose Lord Herschell's amendment, but as the Government Bill was shelved for a time by being referred to a select committee of the House of Lords the matter has not been further proceeded with.

The committee of the General Medical Council attempted, in the first instance, to prevail upon the Board of Trade to take up the question in its relations to the medical profession. A deputation consisting of Sir Dyce Duckworth, the senior treasurer (in the absence of the President from town), Mr. Horsley, and Mr. Tomes, accompanied by Mr. Muir Mackenzie, waited upon the President of the Board of Trade, with whom was Mr. Smith, C.B., and submitted a memorial to him on the subject. Sir Wm. Priestley, M.P., was also present. Mr. Ritchie expressed himself in general terms as perfectly friendly to the objects of the deputation, but was of opinion that the remedy for the grievance complained of was to be found elsewhere than in the proposed Companies Bill, so that he was unwilling to take any steps in the matter.

Moreover, the chances of any Companies Act Amendment Bill becoming law within a reasonable length of time appeared uncertain, and it hence seemed to be expedient to make attempts in some other direction.

Accordingly, Sir Kenneth Muir Mackenzie, the private secretary to the Lord Chancellor, was waited upon and requested to lay a memorial in substance much the same as that which had been submitted to the Board of Trade before his Lordship.

Very shortly after this, on the occasion of a Pharmacy Bill, which had passed the House of Commons, coming before the House of Lords, the Lord Chancellor introduced an amendment which dealt with the question so far as pharmacy was concerned, and this amendment met with the support in principle at all events, of Lord Herschell. But this Pharmacy Bill had passed by agreement through the House of Commons as a practically unopposed measure, and for that, and possibly other reasons, the amendment was withdrawn by the Lord Chancellor, who, however, intimated in withdrawing it that the matter would be subsequently dealt with in another form. This committee were advised to have a draft of a Bill prepared, which in our opinion would meet the difficulty in the case of the Medical and the Dentists' Acts, and they accordingly requested the standing counsel to the General Medical Council, Mr. Muir Mackenzie, to do this in order that it might be submitted to the Lord Chancellor. This has now been done. The committee ask the Council to approve of their action.

Mr. TOMES, in moving the adoption of the report, said that it was brief in relation to the importance of the subject. There was a reason for that. A good deal of the work of the committee had fallen to be done in a conversational manner with officials of departments of the Government, and the members of Council must know that if they had interviews with officials of practically a private nature and then went and proclaimed the whole upon the housetops the officials involved would not afterwards speak so freely as they had done previously. There had been a good many more interviews than were mentioned in the report, and the chairman and the other two members of committee would be exceedingly pleased to give a good deal of information to any member of the Council who might ask them privately for it. The committee had very good hopes of accomplishing what they were appointed to do. They had made, he thought, very real progress in the matter. If they looked at the end of the report they would see that the committee were required to have a Bill on the subject drafted. It might possibly surprise some members of the Council that the draft Bill did not appear in the report, but there were a good many reasons for not producing this draft Bill. The Council were not promoting the Bill. The draft Bill was only a suggestion to be placed before the Lord Chancellor to let him see what the committee thought would be effective on the subject. The Lord Chancellor might not adopt that draft Bill or a single phrase of it. The committee did not produce it, for if they did it would give an opportunity to anyone who learned what its contents were to start opposition. A copy of the proposed measure lay in the offices of the Council and it could be inspected by any member of Council. He asked that all the members of Council should inspect it and assist the committee in getting it passed into law. The committee asked the Council to approve of their action because there was a little change of front in their attitude. They were appointed to get the Government to insert a clause in the

Companies Bill, but they had taken it upon themselves to change their commission and had approached the Lord Chancellor instead with a new Bill. The committee must ask pardon of the Council for departing from what they were appointed to do. If reappointed they would endeavour to get a Bill that would be efficient. They had to deal with a class of people who were trying all they knew and employed all the legal acumen they could get to evade the law, and they must really endeavour to get a stringent Act. The evil complained of was not disappearing. No less than three cases had been heard of since they sent their memorial to the Lord Chancellor and they must use their best endeavour to check the evil.

Mr. TICHBORNE, as the initiator of the movement in the Council, endorsed everything which had been said, but he wanted to know if there would be any difficulty in considering this secret Bill in the Council so that all the members might know what it meant. It was so far good to say that they could see it in the office, but they ought to have an opportunity of discussing it and making suggestions.

Mr. TOMES said that the Council were not promoting the Bill. The draft which had been handed to the Lord Chancellor was simply a suggestion for a Bill.

Sir W. THOMSON said that the suggestion was that of three members of the Council. Was there any objection to the whole Council knowing what the suggestion was? Why should they not go *in camerâ* for ten minutes to learn what it was?

The PRESIDENT saw no objection to their so doing.

Strangers were thereupon asked to withdraw. On their readmission the PRESIDENT informed them that the committee's report had been approved by the Council.

On the motion of Dr. MACALISTER, seconded by Mr. BRYANT, it was then agreed that the committee should be reappointed and should be requested to continue its efforts for the improvement of the law on the subject of companies formed to carry on professional functions. At the suggestion of Dr. MCVAIL and Dr. BRUCE Mr. Tichborne was added to committee.

The Public Health Diploma.

The next business on the programme was the receipt of a report from the Public Health Committee in regard to Sir William Gairdner's motion as to apparent diversities of interpretation given at different places to the regulations of the General Medical Council as regards the course of study for a diploma in public health. This report was presented by Sir Richard Thorne, chairman of the Public Health Committee, and was as follows:—

Your committee beg leave to report that, in pursuance of the resolution of the Council of May 31st, 1898, to the effect that the question of the "interpretation given at different places to the regulations of the General Medical Council as regards the course of study for the diploma of public health," especially in the matter of "the study of the duties of outdoor sanitary work," be remitted to the Public Health Committee, they issued a circular letter on July 7th, 1898, to all the licensing bodies in the United Kingdom which grant degrees or diplomas in public health requesting information on the following points:—(1) The number of certificates as to outdoor sanitary work received during the two years ending June 30th, 1898; (2) the names of the certifying medical officers of health and the number of certificates given by each such officer; and (3) the existence of any rules as to the nature and duration of the tuition determining whether a certificate shall be accepted or not.

The first answers received were in a number of instances such as to involve further correspondence, and it was only during the course of this month that your committee were in possession of sufficient information to enable them to prepare a "summary of answers."

These answers disclose the fact that there exists an almost entire absence of uniformity as regards the interpretation which the different licensing bodies place upon the Regulation of the Council adopted on June 9th, 1896, to the effect that—"Every candidate shall have produced evidence that, during a period of six months after obtaining a registrable qualification, he has practically studied the duties of outdoor work" under a medical officer of health.

Indeed, on one point only do the requirements of the different licensing bodies appear to be alike—namely, in the circumstance that in none of them is it laid down as necessary that the whole of a period of six months shall be devoted to the study of outdoor sanitary work.

Incidentally these answers further disclose the fact that the six months' study of outdoor sanitary work is, in the case of nearly all, if not of all, the licensing bodies allowed more or less to overlap in point of time with the period of six months during which the candidate is further required, under the regulations of the Council, to submit evidence of having "attended during six months practical instruction in a laboratory or laboratories ..... in which chemistry, bacteriology, and the pathology of the diseases of animals transmissible to man are taught."

Several important questions are thus raised as to the interpretation which, in the opinion of the Council, should be placed on their Regulations as to these two six-months' periods of study, in connexion with the antecedent Regulation that "a period of not less than twelve months shall elapse between the attainment of a registrable qualification in medicine, surgery, and midwifery, and the admission of the candidate to any examination or any part thereof for a diploma in sanitary science, public health, or State medicine."

Your committee are not aware how far it was the desire of the Council that they should report to the Council on all the matters which are involved in this question; but if such was the intention of the Council your committee beg leave to suggest that, having regard to the brief interval which has elapsed since the date when they received full information in answer to their circular letter, the matter be referred to them again for further consideration and report.

Sir RICHARD THORNE said that the real effect of this report was to ask whether the Council desired the committee to inquire into the whole question of what students were to do during the six months they were bound to give up laboratory work for outdoor work.

Sir W. GAIRDNER considered that the report of the committee amply justified him in raising the question on its merits.

On the suggestion of the PRESIDENT the report was received as an interim report and the committee was reappointed.

An American Doctoress.

Sir DYCE DUCKWORTH presented the usual report of the Students' Registration Committee on exceptional cases.

Mr. HORSLEY objected to the committee's recommendation that Mrs. Hester S. A. Davies, who had graduated in medicine at the University of Michigan, after passing in June, 1893, a preliminary examination in which all the General Medical Council's subjects were included, should be registered without further preliminary examination on the production of the medical diploma she had obtained from the University of Michigan.

After some conversation the objection was given effect to, and the report was adopted minus the paragraph relating to Mrs. Davies.

Slaughter of the Innocents.

The PRESIDENT, with the view of terminating the session on Wednesday, asked if anything in "the bulky volume of programme" still before them could be dropped.

Dr. GLOVER: Oh, we have come to the slaughter of the innocents.

The PRESIDENT thought that consideration of the memorandum on reciprocity and the statement of the position of foreign practitioners in the United Kingdom was one subject which might be deferred till next May.

Mr. HORSLEY was quite willing to withdraw his notice of motion to propose:—

That a committee be appointed to report upon means to secure identification of registered medical and dental practitioners and to prevent fraudulant personation of such practitioners.

Mr. BRYANT declined to give up his right to proceed this session with a motion for the creation of a sinking fund to enable the Council to repay to the English Branch Council the sum of £25,000 advanced for the purchase of the freehold and the erection of the Council's present offices.

As it seemed useless to try to further reduce the programme the Council adjourned.

WEDNESDAY, NOV. 30TH.

The Council met again to-day with some hope of being able to conclude the business of the session. In this, however, members were disappointed for when 6 o'clock arrived it was found that less than half the remaining business had been disposed of. The Council received and approved a report by the president and treasurers on the proposed alterations in the buildings, postponed until next session the consideration of the amended statement as to the position of foreign practitioners in the United Kingdom, adopted a new form of Standing Order with regard to procedure in the case of practitioners convicted of felony, misdemeanour, crime, or offence, discussed and approved the report of the Pharmacopœia Committee, and devoted some hours to the consideration *in camerâ* of certain legal questions. Our detailed report of the proceedings on this day and on the following day will be published in THE LANCET of next week.

WE have received the following communication from Mr. Victor Horsley, F.R.S., and Mr. George Brown, for publication:—

Nov. 30th, 1898.

WE, the undersigned, hereby enter our protest against the legal advisers of the General Medical Council appearing on behalf of the Council in the appeal case now pending in support of the conviction of the late Mr. Herbert Kingsley Hunter for describing himself as a physician.

GEORGE BROWN.
VICTOR HORSLEY.

Medical News.

UNIVERSITY OF LONDON.—At the M.B. examination in October the following candidates were successful:—

First Division.—Charles William Buckley, St. Mary's Hospital; H. Minnie Castledine, B.Sc., Royal Free Hospital; Frederick Fenn Elwes, Middlesex Hospital; Joseph George Emanuel, B.Sc., Mason College and Queen's and General Hospitals, Birmingham; Hugh Fitz-Neville Hine, Middlesex Hospital; Thomas Jeeves Horder, B.Sc., St. Bartholomew's Hospital; Hubert Innes, London Hospital; Henry Gwynne Lawrence and Francis Seymour Lloyd, St. Mary's Hospital; David Nunes Nabarro, B.Sc., University College; and William Bird Herapath Wood, Queen's and General Hospitals, Birmingham.

Second Division.—William Maurice Anderson, London Hospital; Joseph Ashton, St. Mary's Hospital; Henry Thompson Barron, Westminster Hospital; Sydney Henning Belfrage, St. Thomas's Hospital and University College; James William Huxtable Bendle, St. Mary's Hospital; Thomas Percival Berry, Guy's Hospital; George Playne Bletchly, Middlesex Hospital; Elizabeth Honor Bone, Royal Free Hospital; Gabrielle Ruth Slater Breeze, London School of Medicine and Royal Free Hospital; Frank Brickwell, St. Bartholomew's Hospital; Frank Butterfield, Owens College and Manchester Royal Infirmary; Victor Evelyn Collins, Guy's Hospital; Mabel Eliza Cousins, Royal Free Hospital; Harold Arthur Thomas Fairbank, Charing-cross Hospital; Lucinda Catherine E. Forster, Royal Free Hospital; Gerald Dudley Freer, Queen's and Mason Colleges and St. Bartholomew's Hospital; Arthur Brownfield Fry, London Hospital; Leonard Gilbert, St. Thomas's Hospital; John Abel Glover, Guy's Hospital; Arthur Stanley Green, Royal College of Surgeons of Ireland and Meath Hospital; William Layard Griffiths, B.Sc., University College; John Grimshaw, London Hospital; Solomon Gross, Yorkshire College and General Infirmary, Leeds; Joseph Percy Hall, Owens College and Manchester Royal Infirmary; Lionel Edwin Charles Handson, Guy's Hospital; Harry Edward Hewitt, St. Thomas's Hospital; John Howell, Guy's Hospital; Robert Craske Leaning, Frank Charles Lewis, and Colin Dunrod Lindsey, St. Mary's Hospital; John Preston Maxwell, St. Bartholomew's Hospital; Percy William Moore and Donald John Munro, Guy's Hospital; Henry Peet, Yorkshire College; Arthur George Grant Plumley, Medical School and University College, Bristol, and Guy's Hospital; Charles Stanford Read, University College; Francis Riley, Westminster Hospital; Adeline Mary Roberts, London School of Medicine and Royal Free Hospital; Penry William Rowland, St. Bartholomew's Hospital; Claude Rundle, St. Mary's Hospital; Harold Alfred Schölberg, St. Bartholomew's Hospital; Harold Douglas Singer, St. Thomas's Hospital; Cuthbert Allen Sprawson, King's College; Russell Henry Jocelyn Swan, Guy's Hospital; George Padgett Tayler, St. Bartholomew's Hospital; Walter Henry Maxwell Telling, Guy's Hospital; Charles Joseph Utley, Owens College; and Archibald Young, University College, Sheffield, and London.

FOREIGN UNIVERSITY INTELLIGENCE.—*Breslau:* Several of the restrictions to which female medical students have hitherto been subject are now being relaxed.—*Liége:* Dr. Henrijean has been appointed Professor of Pharmacology and General Therapeutics. Dr. Troisfontaines has been appointed to the chair of Special Surgical Pathology.—*Moscow:* Dr. Martinoff has been recognised as *privat-docent* of Surgical Diagnosis.—*Rostock:* Dr. O. Nasse, Director of the Pharmacological and Chemico-Physiological Institute, has been obliged to resign on account of ill-health.

THE SENTENCE ON JOHN LLOYD WHITMARSH.—The Press Association states that the Home Secretary has decided to treat the sentence of the convict Whitmarsh as one of twelve years' penal servitude.

HOSPITAL SUNDAY IN PLYMOUTH.—Oct. 30th was observed in Plymouth as Hospital Sunday and over £600 were collected in aid of the funds of the South Devon and East Cornwall Hospital.

ELECTRIC SHOCKS AT CARDIFF.—Several persons received electric shocks in Wood-street, Cardiff, on Nov. 24th. The explanation given by the electrical engineer was that there were leakages in one or two of the electric light connexions.

BARRY ACCIDENT HOSPITAL.—The hospital committee of the Barry District Council has decided to recommend the council to take over the management of the accident hospital which will be relinquished by the nursing association at the end of the present year.

DEVONPORT SCHOOL BOARD.—The members of the Devonport School Board on Nov. 21st elected Mr. John Rolston, M.D., L.R.C.S. Edin., to fill the first vacancy which has occurred since the present board has been in office. Dr. Rolston has now been for over twenty-five years associated with the Devonport School Board.

THE WATER-SUPPLY OF LLANELLY.—At the meeting of the Waterworks Committee of the Llanelly Borough Council held on Nov. 25th it was decided to erect a second storage reservoir. It will be constructed above the present one at Cwmlliedi and will have a capacity of 180,000,000 gallons.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ACLAND, H. T. D., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital.

AMBROSE, W. C., B.A. Camb., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

ANGIVEN, S. L., M.B. Melb., has been appointed Medical Officer of Health for the St. Arnaud Borough, Victoria, Australia.

ARNOLD, G. J., F.R.C.S., L.R.C.P., has been appointed Clinical Assistant in the X Ray Department at St. Thomas's Hospital.

BARNES, J. A., L.R.C.P., M.R.C.S., has been re-appointed Assistant House Surgeon to St. Thomas's Hospital.

BELGRAVE, T. B., M.D. Edin., M.R.C.S., has been appointed Health Officer for Bulong, Western Australia, vice S. Herriott, resigned.

BELL, R. H., B.A., M.B., B.C. Camb., L.R.C.P., M.R.C.S., has been appointed Junior Obstetric House Physician to St. Thomas's Hospital.

BENNETT, F. A., M.D. Aberd., Ch.M., has been appointed a Physician for Diseases of the Skin, Prince Alfred Hospital, Sydney, New South Wales.

BILL, J. P., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed an Assistant Medical Officer for the Infirmary of the Lewisham Union.

BINGHAM, S. O., L.R.C.P., M.R.C.S., has been re-appointed Assistant House Surgeon to St. Thomas's Hospital.

BOUSFIELD, EDWARD C., L.R.C.P. Lond., M.R.C.S., has been appointed Bacteriologist for the Parish of Camberwell.

BRINDLEY, A. E., M.D. Lond., B.Sc. Vict., has been appointed Medical Officer of Health for Bury, vice W. J. Howarth.

BUTLER, H. J., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Seventh Sanitary District of the Bradford (Yorks) Union.

BUZZARD, E. F., B.A., M.B., B.Ch. Oxon., has been re-appointed House Physician to St. Thomas's Hospital.

CAHILL, THOMAS, M.D., Ch.M. Irel., has been appointed a Member of the Dentistry Board of Examiners, Wellington, New Zealand.

CHARLES, J. R., B.A., M.B., B.C. Camb., L.R.C.P., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

COBB, E. H., L.R.C.P., M.R.C.S., has been re-appointed House Surgeon to St. Thomas's Hospital.

COLLINS, W. E., M.B. Lond., M.R.C.S., has been appointed a Member of the Dentistry Board of Examiners, Wellington, New Zealand.

CONNOR, S., M.D., Ch.B. Irel., has been appointed Officer of Health for the Wannon Shire, Nareen Riding, Victoria, Australia, vice W. D. K. Macgillivray, resigned.

CORNER, E. M., M.A., M.B., B.C. Camb., B.Sc. Lond., L.R.C.P., M.R.C.S., has been re-appointed Assistant House Surgeon to St. Thomas's Hospital.

DICKSON, J. D., M.D., M.Ch., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Marlow Urban District Council.

FORTUNE, ERNEST G., M.B., C.M., F.R.C.S. Edin., has been appointed an Assistant Surgeon to the Glasgow Cancer Hospital.

GALT, W. J., B.A. Oxon., L.R.C.P., M.R.C.S., has been re-appointed Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital.

GATES, B. A., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Electrical Department at St. Thomas's Hospital.

GOODE, H. N., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Electrical Department at St. Thomas's Hospital.

GREAVES, F. L. A., L.R.C.P., M.R.C.S., has been re-appointed House Surgeon to St. Thomas's Hospital.

GREG, A. H., B.A. Camb., L.R.C.P., M.R.C.S., has been re-appointed House Surgeon to St. Thomas's Hospital.

HANKINS, G. T., M.R.C.S., L.S.A. Lond., has been appointed a Surgeon for Diseases of the Nose, Ear, and Throat, Prince Alfred Hospital, Sydney, New South Wales.

HEARNE, W. W., M.B. Melb., has been appointed a Resident Surgeon for the Alfred Hospital, Melbourne, Victoria, Australia.

HERN, WILLIAM, M.R.C.S., L.D.S., has been appointed Lecturer in Dental Surgery and Pathology for the Dental Hospital of London, vice Storer Bennett, resigned.

HEWITT, H. E., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

HIGGINS, G. H., L.R.C.P. Edin., M.R.C.S., has been appointed a Medical Officer for the Third Sanitary District of the Bradford (Yorks) Union.

HOCKEN, J. P., M.D. Brux., L.R.C.P. Lond., M.R.C.S., has been appointed a Government Medical Officer and Vaccinator for the District of West Wallsend, New South Wales.

HOGARTH, R. G., F.R.C.S. Eng., has been appointed Surgeon for the Samaritan Hospital for Women, Nottingham, vice G. Elder, resigned.

JOHNS, J. A., M.B., B.Ch. Dubl., has been appointed Apothecary for the South Dublin Dispensary.

KELYNACK, T. N., M.D., M.R.C.P., has been appointed Honorary Pathologist and Bacteriologist for the Manchester Ear Hospital.

KENNARD, D. G., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Farringdon No. 1 Sanitary District and the Workhouse, vice C. Spackman, resigned.

KILVERT, J. E., L.R.C.P., M.R.C.S., has been re-appointed Assistant House Surgeon to St. Thomas's Hospital.

LAIDLAW, D. F., M.B., Ch.M. Edin., has been appointed Officer of Health for the Hamilton Borough, Victoria, Australia, vice L. Robinson, resigned.

MANLY, R. A. A., M.B. Melb., has been appointed Officer of Health for the Shire of Wyndham, Victoria, Australia, vice H. C. H. Giles, resigned.

MCCLEAN, J. F., L.R.C.P., M.R.C.S., has been appointed Senior Obstetric House Physician to St. Thomas's Hospital.

METCALFE, J., M.D. Brux., L.R.C.P., L.R.C.S. Edin., has been appointed a Medical Officer for the Ninth Sanitary District of Bradford (Yorks) Union.

MOORE, H. J., M.B., B.Ch. Irel., has been appointed Medical Officer for the Ardee Dispensary District, vice T. J. Moore, resigned.

NOBLE, H. PERCY, M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed Anæsthetist for the Metropolitan Hospital, Kingsland-road, N.E.

NOLAN, L. A., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Officer of Health for the Shire of Rosedale, Rosedale and Denison Ridings, Victoria, Australia, vice D. A. Campbell, resigned.

PEARCE, J. P., M.R.C.S., has been re-appointed Medical Officer for the Second and Third Sanitary Districts of the Newhaven Union.

POCHIN, F. L., M.B., C.M. Edin., has been appointed District Medical Officer and Public Vaccinator for the Raynham District of the Walsingham Union, vice Eland Shaw, resigned.

POLLEN, H., M.D. Dubl., Ch.M., L.K.Q.C.P., has been appointed a Member of the Dentistry Board of Examiners, Wellington, New Zealand.

PURSER, CECIL, M.B., Ch.M. Syd., has been appointed an Honorary Physician for the Prince Alfred Hospital, Sydney, New South Wales.

ROBIN, V. J. R., L.R.C.P. Lond., M.R.C.S., has been appointed Health and Medical Officer for Port Douglas, Queensland.

ROBINSON, A. C., L.R.C.P., M.R.C.S., has been re-appointed House Surgeon to St. Thomas's Hospital.

RUSSELL, R. U., L.R.C.P. Edin., L.R.C.S. Irel., has been appointed Port Health Officer for Newcastle, New South Wales.

SCAPING, H. M., B.A. Camb., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

SELLS, H. T., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health by the Northfleet Urban District Council.

SINGER, H. D., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

SMITH, P., M.D. Syd., has been appointed Superintendent of the Institution for Inebriates established on the premises of the Benevolent Asylum, Dunwich, Queensland.

STEVENS, A. E. M.B. Durh., L.R.C.P., M.R.C.S., has been re-appointed Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

STEVENSON, LOUIS E., B.A., M.B., B.C. Cantab., has been elected a Fellow of the Geological Society of London.

TEBAY, M. K., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Medical Officer for the Workhouse and Infirmary of the parish of St. George-in-the-East.

THWAITES, G. B., L.R.C.P., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

VEALE, H. DE P. B., L.S.A., has been appointed a Medical Officer for the Fourth Sanitary District of the North Bierley Union.

VIRET, B. P., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed a Medical Officer for the Eighth Sanitary District of the Bradford Yorks) Union.

WOODFORDE, ROBERT E. H., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon for the County Hospital, Huntingdon.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BEDFORD COLLEGE, LONDON, FOR WOMEN, York-place, Baker-street, W.—Professorship of Hygiene.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's-Inn-road, W.C.—Assistant Surgeon.

CITY ASYLUM, Gosforth, Newcastle-upon-Tyne.—Assistant Medical Officer, unmarried. Salary £130 a year, with furnished apartments, board, &c. Salary rising £10 per annum up to £150.

COUNTY ASYLUM, Prestwich, Manchester.—Assistant Medical Officer, unmarried. Salary £100 a year, increasing to £250 by £25 successive increments, with apartments, board, attendance, and washing.

DERBY COUNTY ASYLUM, Derby.—Assistant Medical Officer, unmarried. Salary £120 per annum, rising to £150, with board, lodging, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—House Physician. Board, residence, &c., provided, and an honorarium of £25 will be granted on the completion of six months' approved service.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Senior House Physician for six months. Salary at the rate of £60 per annum, with board and lodging in the hospital.

HARRIS PARISH COUNCIL.—Medical Officer and Public Vaccinator for the Southern Division of Harris. Salary £30. Other emoluments. Apply to Mr. T. Wilson, Solicitor, Lochmaddy.

HOSPITAL AND DISPENSARY, Newark-upon-Trent.—House Surgeon, unmarried. Salary £80 per annum, with board and lodging in the hospital.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—House Physician for six months, unmarried. Salary £20, with board and residence in the hospital.

JAMES MURRAY'S ROYAL ASYLUM, Perth.—Assistant Medical Officer. Apply to Dr. Urquhart, Physician Superintendent.

LONDON COUNTY ASYLUM, Hanwell, W.—Junior Assistant Medical Officer, Salary £150 per annum, with board, furnished apartments, and washing. Applications to the Clerk of the Asylums Committee, Asylums Committee Office, 21, Whitehall-place, S.W.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer for one year, unmarried. Salary £150 per annum, with board and residence.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, London, W.C.—Medical Superintendent. Salary £100 per annum, furnished apartments, fire, lights, and attendance, with certain fees.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (ALBANY MEMORIAL), Queen-square, Bloomsbury, London.—Assistant Physician.

PARISH OF LIVERPOOL.—Assistant Medical Officer for the Workhouse, Brownlow-hill. Salary £80 per annum, with rations, an additional sum of £20 being allowed for examining applicants for out-door relief. To reside in the workhouse in the apartments provided. Applications to the Vestry Clerk, Parish Offices, Brownlow-hill.

PARISH OF ST. GILES, Camberwell.—Medical Officer for the Dulwich District of the Parish. Salary £20 per annum,, with extra fees for Midwifery, &c. Applications to the Clerk to the Guardians, Guardians' Office, 23, Peckham-road, S.E.

RADCLIFFE INFIRMARY, OXFORD.—Surgeon.

ROYAL COLLEGE OF PHYSICIANS, London.—Milroy Lecturer for 1900.

ROYAL INFIRMARY, Hull.—House Surgeon, unmarried. Salary 100 guineas per annum, with board and furnished apartments.

SALOP INFIRMARY.—Assistant House Surgeon, for six months. Salary at the rate of £40 per annum.

SUNDERLAND AND NORTH DURHAM EYE INFIRMARY.—House Surgeon. Salary £150 per annum, outdoor.

TOWNSHIP OF TOXTETH-PARK.—Junior Assistant Medical Officer for the Workhouse Infirmary. Salary £75 per annum, with board, washing, and apartments, subject to statutory deduction. Applications to the Clerk to the Guardians, 12, High Park-street, Liverpool.

UNIVERSITY OF GLASGOW.—Five Examinerships in Medicine for three years each. Salaries £30 and £50 respectively.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon, for six months.

WESTERN GENERAL DISPENSARY, Marylebone-road, London.—Honorary Physician or Surgeon Accoucheur, and for Diseases of Women.

WESTMINSTER GENERAL DISPENSARY, 9, Gerrard-street, Soho, W.—Resident Medical Officer for one year.

WILLITON UNION, Somerset.—Medical Officer and Public Vaccinator for the Union Workhouse at Williton and the Williton District of the Union. Salary for the Workhouse £35, with extra fees. Salary for the District £79, with extra fees. Applications to the Clerk, Williton, Somerset.

WILTSHIRE COUNTY COUNCIL.—County Medical Officer of Health. Salary £500 per annum, with certain allowances. Aplications to the Clerk to the Council, County Offices, Arlington House, Trowbridge.

Births, Marriages, and Deaths.

BIRTHS.

BRODIE.—On Nov. 27th, at Fernhill, Wootton Bridge, Isle of Wight, the wife of C. Gordon Brodie, F.R.C.S., of a son.

RODGERS.—On Nov. 28th, at Clarence-road, Cardiff, the wife of J. H. Rodgers, L.R.C.P. &c. Edin., of a daughter.

MARRIAGES.

CAMPBELL—BOWLES.—On Nov. 23rd, at St. Mary's, Hayes, Middlesex, Surgeon-Lieutenant-Colonel W. Campbell, late Grenadier Guards, to Margaret Jessie, widow of the late Alfred Bowles.

CHAPLIN—SETON SMITH.—On Nov. 17th, at St. Mary's, North-end, Arnold Chaplin, M.D., of Finsbury-square, to Joan, widow of the late Bruce Seton Smith, of Richmond.

MCKENZIE—SCOTT.—On Nov. 24th, at the Trinity Presbyterian Church, Wimbledon, Harry Valentine McKenzie, M.D., of Torquay, to Ethel, second daughter of Robert Scott, M.R.C.V.S., Wimbledon.

DEATHS.

ALLMAN.—On Nov. 24th, at Parkstone, Dorset, George James Allman, M.D., LL.D., F.R.C.S. Irel., F.R.S., F.R.S.E., M.R.I.A., Cor. Member Z.S.L., in his 87th year.

BUCHAN.—On Nov. 26th, at Crescent-place, Plymouth, William Augustus Buchan, M.B., son of the late Captain D. A. Buchan, R.N., aged 39 years.

CLARKE.—On Nov. 24th, at 3, Chandos-street, Cavendish-square, Doris Litton, the infant daughter of Ernest and Kate Litton Clarke.

CLEVELAND.—On Nov. 24th, at Maida-vale, W., William Frederick Cleveland, M.D., aged 75 years.

SMITH.—On Nov. 25th, at Alfred-place, Thurloe-square, Surgeon-General Alexander Smith, M.D., C.B., Honorary Physician to the Queen, aged 74 years.

TILTON.—On Nov. 20th, at Parsonage-place, Dursley, John Edward Tilton, M.R.C.S., L.S.A., aged 63 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat Hospital (2 P.M.).

TUESDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.), Royal Ear Hospital (3 P.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M.).

THURSDAY (8th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex, (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.).

SATURDAY (10th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.), London Throat Hospital (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (5th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-square).—7 P.M. Council Meeting. 8 P.M. Paper:—Mr. F. J. Bennett: Some Old and New Theories of Calcification. Casual Communications:—Mr. R. H. Woodhouse: On a Case of Regulation.—Mr. J. H. Badcock: On the Relation of the Third Molar to the Antrum of Highmore.—Mr. H. L. Williams: On a Modification of Hammond's Splint.

TUESDAY (6th).—ROENTGEN SOCIETY (11, Chandos-street, Cavendish-square, W.).—8 P.M. Discussion on Dermatitis in Relation to Roentgen Ray Work (introduced by Mr. E. Payne and Dr. Walsh.)

PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr. C. Ogle: (1) Sarcoma of Pineal Body with Diffused Melanotic Sarcoma of Surface of Cerebrum; (2) Tumour of Pineal Body in a Boy.—Mr. T. W. P. Lawrence: Enlarged Pineal Body.—Prof. W. S. Greenfield: New Growth of Pineal Body.—Dr. A. E. Russell: Cyst of Pineal Body.—Dr. S. G. Shattock: Cyst of Pineal Body.—Dr. A. W. Campbell: Cyst of Pineal Body.—Dr. A. E. Garrod: Cyst of Pineal Body.

WEDNESDAY (7th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus).—8.30 P.M. Clinical Evening. Cases will be shown by Dr. T. G. Lyon, Mr. H. Beevor, Mr. A. Davies, Mr. St. C. Shadwell, Mr. Targett, Dr. F. J. Smith, and other Fellows.

OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. W. Hunter (introduced by Dr. A. Routh), Dr. Lewers, Dr. Spencer, Dr. J. Phillips, and Mr. Targett. Papers:—Dr. Ponder: (1) The Action which will be Beneficial in Parturition; (2) The Actions which in Parturition are not Beneficial but only Injurious and tending to disaster; (3) The proper Time for Instrumental Interference.

THURSDAY (8th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Clinical Evening. Cases and Card Specimens. 8.30 P.M. Mr. Nettleship: Microscopical Drawing of Renal Retinitis.—Mr. H. Spicer: Case of Sympathetic Ophthalmitis commencing after Excision.—Mr. W. J. Cant: Pulsating Exophthalmos with Visible Tumour.—Mr. A. Critchett: Case of Sclerosing Keratitis.—Mr. J. Griffith and Dr. Blair: An Unusual Form of Marginal Keratitis (? pemphigus).—Mr. A. H. Thompson: Tumour of Iris.—Mr. G. Hartridge: Case of Choroiditis in an Early Stage.—Mr. W. Lang: Hæmorrhagic Retinitis with Degenerated Vessels.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Specimens will be shown by Dr. Bantock, Dr. G. Elder, Mr. Purcell, and Mr. C. Ryall. Discussion on Mr. S. Bishop's paper on the Combined Method in Pelvic Surgery.

FRIDAY (9th).—CHARITY ORGANISATION SOCIETY (Portman Rooms, Baker-street, W.).—4.30 P.M. Dr. J. B. Hurry: The Provident Dispensary and Provident Nursing. (Course of Lectures on Medical Relief.)

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Mr. C. Williams: Lingual Chancre from Indirect Contagion, which tends to show that Syphilitic Virus can remain Latent in the Dried State for over Two Months.—Mr. P. Gould: A Case of Pancreatic Calculus with Obstruction of the Common Bile Duct.—Mr. Fripp and Dr. Bryant: A Case of Acute Hæmorrhagic Pancreatitis with Microscopical and Bacteriological Specimens.—Dr. N. Pitt and Mr. W. H. A. Jacobson: A Case of Acute Hæmorrhagic Pancreatitis.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (5th).—ROYAL INSTITUTION OF GREAT BRITAIN.—5 P.M. General Monthly Meeting.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. J. B. Ball: Methods of Examining the Throat and Nose.

TUESDAY (6th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-sq., W.C.).—3.30 P.M. Sir F. Semon: On the probably Cortical Origin of some Laryngeal Paralyses.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. F. Beach: Cases of Epilepsy and other Convulsive Disorders.

WEDNESDAY (7th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Mr. T. Pickering Pick: The Union of Wounds. (Bradshaw Lecture.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Mr. Godlee: Pulmonary Abscess.

THURSDAY (8th).—THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Barlow.

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Murray: Medical Cases. (Post-Graduate Class.)

FRIDAY (9th).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. J. B. Ball: Methods of Examining the Throat and Nose.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

OYSTERS.

To the Editors of THE LANCET.

SIRS,—Will any of your correspondents kindly say what kind of oysters can now be recommended without fear of typhoid fever?

I am, Sirs, yours faithfully,

Nov. 25th, 1898. W. WOODWARD, M.D. St. And.

*** The best advice we can give our correspondent is that he should procure, or consult, a copy of the Local Government Board's report on "Oyster Culture in relation to Disease" (Eyre and Spottiswoode). He will there find a detailed description of practically all the oyster layings in England.—ED. L.

THE QUALIFICATION OF L.A.H. DUBLIN.

To the Editors of THE LANCET.

SIRS,—Will you kindly inform me through your columns whether the L.A.H. Dub., 1880, is a double qualification, and if the holder of it is legally qualified to hold Government, municipal, or surgical appointments?

I am, Sirs, yours faithfully,

Nov. 19th, 1898. PUZZLED.

*** The Licence of the Apothecaries' Hall of Dublin in 1880 was, as it is now, a licence in *medicine* only.—ED. L.

THE TALE OF A THREEPENNY-BIT.

His Honour Judge Edge, recently translated from a county-court district in Devonshire to Clerkenwell, enjoys, we believe, a high reputation in the legal profession for knowledge of all things essential to his position. Among these seems to be included an acquaintance with the relations existing between the hospitals and the public. Having before him not long ago a defendant who though reported to be well off had recently been an inmate of a hospital and who gave this as an excuse for his inability to pay his creditor, the learned county-court judge asked him searching questions as to a donation which he had made to the hospital funds. He also told an anecdote of a

gentleman in evening dress who after being attended to in a hospital, presumably for an accident, asked for the donation-box and ostentatiously put money into it, the end of the story being that on the box being opened the coin deposited in it turned out to be a threepenny-bit. The defendant before Judge Edge seems to have found himself neatly placed between the horns of a dilemma. If he named a large sum he proclaimed his means and if he named an infinitesimally small one he convicted himself of hypocrisy, for obviously no one is expected to requite a hospital for what it may do for him in a case of urgent need unless he can afford to give something more than, say, 6d. or 1s. That the defendant in question had not hit upon any suitable sum between the two extremes suggested is a fair inference from the fact that he did not state the amount he had in fact contributed, and the sum by which the hospital was benefited remains a matter of pure speculation. Leaving his case, however, out of the question his Honour Judge Edge showed by his remark "I really consider that the way our hospitals are abused by persons well able to pay is a gross scandal" that a county-court judge as well as a hospital secretary may recognise all frequent association between means and meanness that goes beyond a mere similarity of sound.

LECTURES TO NURSES.

To the Editors of THE LANCET.

SIRS,—It may interest your readers to know the questions which were recently set at an examination for ladies in "First Aid" at the Polytechnic. Very little was said during the five lectures on anatomy and physiology, but at the examination (written), duration two hours, the following were asked:—1. Describe the alimentary canal. 2. Enumerate the bones of the cranium and describe the brain. 3. Describe the lungs and the pulmonary circulation. 4. Describe a muscle. To what injuries is it liable? 5. What is shock? The lectures were said to have been practical and interesting and dealing with first aid, but they did not prepare candidates for such a sweeping examination. There is an element of absurdity in the examination which should amuse the profession. I am, Sirs, yours faithfully,

Nov. 21st, 1898. A. B. C.

A FOOT ROLLER.

WE have received from Mr. Alfred Bentzen of Westminster-road, Birmingham, an appliance for which a claim is made that it tends to prevent corns and chilblains and to relieve tenderness and some other painful conditions of the feet. It consists of a roller about 4½ in. long and 1¼ in. in diameter, thickly covered with felt and mounted on two very short supports on which it revolves freely. The felt having been saturated with an oily solution supplied by the maker the roller is placed on the floor and the foot is passed to and fro over it. This is no doubt a stimulating exercise for the plantar structures and will help to counteract the ill effects of wearing tight boots. It might perhaps be of use in certain conditions of cramp or liability to cramp in the legs.

"WANTED A HOME."

To the Editors of THE LANCET.

SIRS,—With reference to the letter of "G. H." in THE LANCET of Nov. 26th I think he can find an asylum to undertake the charge of his patient for the sum he mentions—viz., £50 per annum. Peckham House Asylum, Peckham, would, I believe, do so, and I think there are others. He would, of course, have to be under certificate.

I am, Sirs, yours faithfully,

M. O. WALSHE.

Male Nurses' (Temperance) Co-operation, Thayer-street, Manchester-square, W., Nov. 28th, 1898.

"ENDERMIC MEDICATION."

To the Editors of THE LANCET.

SIRS,—Permit me, for the information of your correspondent "Vienna" in THE LANCET of Nov. 26th, to say that I have for the past two years successfully carried on endermic medication at the address given below and that patients sent to me by consultants or general practitioners are treated in accordance with their own wishes under my personal supervision and that the institution is open to them from 10 A.M. to 6 P.M., when their respective patients can be seen and examined by them, such remaining always the patients of those practitioners who send them. The institution is being fed by the most eminent in the profession.

I am, Sirs, yours faithfully,

E. KING HOUCHIN.

8, Osborne-mansions, Northumberland-street, W., Nov. 28th, 1898.

"THE TITLE OF DR."

To the Editors of THE LANCET.

SIRS,—I beg to draw your notice to the list of successful candidates for the Royal Naval Medical Service, indicating, as it does, that non-university men when placed in competition with university graduates show a high standard of proficiency in medical science. For it will be seen that the first four successful candidates are diplomates. The natural inference is that it is a gross hardship that the latter should be excluded from competing for certain appointments in civil life, as seen by the various advertisements where graduates alone are eligible. It also seems harsh at the present day that these diplomates should be prohibited by the authorities and discountenanced by a certain class of graduates from using the title of "Dr.," by which designation members of the medical profession are known to the public as such and which title is conceded to diplomates by public custom. Hoping you will find space to insert this communication in your valuable journal. I am, Sirs, yours faithfully.

Nov. 26th, 1898. FREDERICK W. COLLINGWOOD.

*** With those affected by the injustice which is meted out to diplomates under existing conditions we have every sympathy which we have expressed many times in our columns. For the London student better times are at hand we confidently believe. But in the meantime we cannot approve of the usurpation by diplomates of an incorrect style.—ED. L.

"TREATMENT OF VARICOSE ULCER."

To the Editors of THE LANCET.

SIRS,—In reference to the inquiry of "Ulcer" in THE LANCET of Nov. 26th under the above heading I should like to ask whether he tried a lotion composed of 80 gr. of nitrate of silver (crystals) and distilled water to 8 oz. One or two layers of fine butter-cloth should be saturated with this lotion and placed over the ulcer, a bandage of butter-cloth should be applied over them, and then a Martin's rubber bandage should be put over all. This lotion should be applied once daily and the bandaging should be most carefully done. The irritation (in my own cases) subsides and after a few weeks complete healing takes place. I am, Sirs, yours faithfully,

ARTHUR H. W. AYLING.

Wellington, Shropshire, Nov. 28th, 1898.

To the Editors of THE LANCET.

SIRS,—In reply to the inquiry in THE LANCET of Nov. 26th signed "Ulcer" I have found that some cases of varicose ulcers which did not yield to careful bandaging or even complete rest in the horizontal position were quickly cured when this treatment was combined with the internal administration of iodide of potassium. Seven-grain doses three times daily have sufficed, and I have usually combined with it three minims of liquor arsenicalis with compound infusion of gentian to one ounce. These cases showed no signs of syphilis, still, of course, the taint may have been there.

I am, Sirs, yours faithfully,

F. TAYLOR SIMSON.

Northumberland-avenue, W.C., Nov. 29th, 1898.

D.P.H. (Yorkshire).—We should say no. Our correspondent will find the question fully dealt with on pages 24 and 25 of the current Medical Directory. To answer quite definitely we should require a little more information.

Pro Bono Publico.—We do not publish anonymous letters however inclusive their dedication for good.

M.O.H. (open-air treatment of consumption) has omitted to enclose his name and address.

Query.—Yes, he is correct in so styling himself.

Z.—Under ordinary circumstances, no.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 1st, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Nov. 25	28·79	S.W.	0·24	73	51	42	47	47	Raining
,, 26	28·97	S.E.	0·76	51	48	44	44	45	Raining
,, 27	29·17	W.	0·10	58	47	43	42	44	Cloudy
,, 28	29·35	N.E.	0·12	46	43	36	35	37	Cloudy
,, 29	29·54	N.	...	51	43	36	37	39	Overcast
,, 30	29·81	S.E.	...	56	49	33	36	37	Overcast
Dec. 1	29·93	W.	0·07	68	55	37	48	50	Cloudy

During the week marked copies of the following newspapers have been received: *Dundee Advertiser, Liverpool Courier, Daily Mail, Leicester Post, Beverley Guardian, Dublin Express, Craven Herald, Manchester Guardian, Essex Telegraph, Glasgow Herald, Times of India, Pioneer Mail, Hereford Times, Wigan Observer, Kidderminster Shuttle, Leeds Mercury, Builder, Scotsman, Architect, Bridlington Free Press, Citizen, Cheltenham Mercury, Todmorden News, Brighton Gazette, Liverpool Daily Post, Clifton Chronicle, Boston Independent, Sussex Daily News, Lowestoft Standard, Bristol Mercury, Birmingham Post, Newcastle Journal, Western Morning News, Yorkshire Post, Sanitary Record, Mining Journal, City Press, Hertfordshire Mercury, Local Government Chronicle, Reading Mercury, Boston Evening Transcript, Dunfermline Press, Local Government Journal, Irish News, Surrey Advertiser, Australasian Medical Gazette, Weekly Free Press and Aberdeen Herald, Child's Guardian, Isle of Ely Advertiser, Banffshire Advertiser, Droghela Conservative, Figaro, Nantwich Guardian, South Durham Mercury, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Dr. G. Arnott, Newcastle-on-Tyne; Dr. J. M. Atkinson, Hong-Kong; Apollinaris Co., Lond.; Dr. J. Adam, West Malling; Dr. A.; Messrs. Allen and Hanburys, Lond.; A. J. L.; Mr. C. E. Ady, Lond.

B.—Dr. H. W. L. Barlow, Southport; Mrs. K. Behnke, Lond.; Mr. R. Baker, Lond.; Dr. A. E. Brindley, Bury; Mr. G. P. Butcher, Plymouth; Messrs. Barber and Co., Derby; Messrs. Bates, Hendy, and Co., Reading; Mr. C. Birchall, Liverpool.

C.—Mr. G. P. Churcher, Ashburton; Mr. A. Castex, Paris; Dr. J. W. Cousins, Southsea; Mr. E. T. Collins, Lond.; Mr. P. R. Cresswell, Dowlais; County Asylum, Prestwich, Medical Superintendent of; Cumberland and Westmorland Asylum, Carlisle, Clerk of; Messrs. A. Constable and Co., Lond.; Messrs. Crossley, Moir, and Co., Lond.; Messrs. Carnrick and Co., Lond.; Mr. J. B. Cameron, Lond.

D.—Mr. J. C. Davies, Ruabon; Messrs. A. De St. Dalmas and Co., Leicester.

F.—Messrs. Ferris and Co., Bristol; Mr. A. C. Else, Clifton.

G.—Dr. J. Gilmour, Duntocher; Messrs. Gonzalez, Byass, and Co., Lond.; Mr. A. Georgi, Leipzig; Mr. Hastings Gilford, Reading.

H.—Dr. F. L. Hart, Lond.; Dr. D. Hooper, Lond.; Messrs. F. Hellige and Co., Freiburg; *Hamilton Advertiser*, Publisher of; Messrs. Hirschfeld Bros., Lond.; Mr. J. T. Hislop, Hampsthwaite; Mr. R. Harrison, Lond.; Mr. J. Heywood, Manchester; Huguenots (The), Wandsworth; Mr. Victor Horsley, Lond.

J.—James Murray's Royal Asylum, Perth, Superintendent of; J. C. T.; J. H. C.; Dr. H. Jones, Wilkesbarre, U.S.A.

K.—Mr. A. F. Stanley Kent, Lond.; Dr. J. H. Keeling, Sheffield.

L.—Dr. F. F. Lee, Salisbury; Dr. A. P. Luff, Lond.; Mr. C. S. Loch, Lond.; Messrs. Lee and Nightingale, Liverpool; Dr. J. F. Little, Lond.; London Press Exchange, Lond.; Mr. F. W. Lowndes, Liverpool.

M.—Mr. J. MacMunn, Lond.; Male Nurses' (Temperance) Coöperation, Lond., Secretary of; Dr. H. W. G. Mackenzie, Lond.; M. W.; Dr. J. A. Mackenzie, Lond.; Mr. R. D. Morgan, Ynys-y-bwl; Manchester Royal Infirmary, Secretary of; Messrs. S. Maw, Son, and Thompson, Lond.; Messrs. C. Mitchell and Co., Lond.; Mr. R. D. MacGregor, Lond.; Messrs. Morrison, Ingram, and Co., Manchester; Messrs. McKesson and Robbins, New York.

O.—Mr. N. M. Ogle, Lond.; Mr. C. A. P. Osburne, Norwich.

P.—Mr. Y. J. Pentland, Edinburgh; Pitman's Metropolitan School, Lond., Secretary of; Prince of Wales' Hospital Fund for London, Hon. Secretaries of; Price's Patent Candle Co., Lond.; Messrs. Parke, Davis, and Co., Lond.; Printers' Pension Corporation, &c., Lond., Secretary of; Messrs. H. Potha and Co., Lond.; Mr. T. P. Pick, Lond.; Dr. F. Pott, Bournemouth; Messrs. G. Pilling and Sons, Philadelphia; Messrs. G. Pulman and Sons, Lond.

R.—Mr. H. Rose, Aylesbury; Royal Free Hospital, Lond., Secretary of; Radcliffe Infirmary, Oxford, Secretary of; R. E. N.

S.—Mr. W. Macdonald Smith, Folkestone; Dr. A. E. Sansom, Lond.; Dr. F. J. Smith, Lond.; Dr. G. E. Shuttleworth, Richmond; Dr. G. A. Stephens, Swansea; Dr. J. O. Symes, Clifton; Mr. J. H. Stuart, Linlithgow; Messrs. Sparkes, Treherne, and Son, Lond.; Sunderland Eye Infirmary, Secretary of; Sanitas Co. Lond.; Dr. Lorrain Smith, Belfast.

T.—Mr. L. Tallerman, Lond.; Mr. G. Taunton, Birmingham; Dr. R. S. Thomson, Glasgow; Mr. J. C. Taylor, Jersey; Dr. E. Trevithick, Cheltenham; Mr. J. Thin, Edinburgh; T. H. W.; Mr. E. Thomson, New York; Messrs. T. Tyrer and Co., Lond.; Thomas Pharmacal Co., New York, Treasurer of; Dr. H. M. Tickell, Derby; Dr. H. Tilley, Lond.

V.—Dr. F. G. Vicars, Lond.; Mr. J. W. Vickers, Lond.

W.—Mr. T. W. Wilson, Lond.; Messrs. Williams and Norgate, Lond.; Western General Dispensary, Lond., Hon. Secretary of; Dr. C. J. Whitby, Clifton; *West Somerset Free Press*, Williton, Proprietor of; Messrs. W. and F. Walker, Liverpool; Wilts County Council, Clerk of; Mr. H. C. Wilkins, Coventry; Mr. C. Wills, Farnsfield; Messrs. Willing, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. H. S. Anderson, Dunmurry; A. R. S.; A. J. P.; A. M.; Mr. J. Altschul, Lond.; Ancoats Hospital, Manchester, Secretary of; Mr. G. C. B. Atkinson, Long Clawson; A. O. G.; A. J. D.

B.—Messrs. Bedford and Co., Lond.; Birmingham Eye Hospital, Secretary of; Mr. C. Bridges, Lond.; Messrs. F. L. Borthwick and Co., Lond.; Mr. T. W. Brimacombe, Kingswood.

C.—Mr. F. W. Clarke, Manchester; Mr. J. M. Carvell, Catford; Chichester Infirmary, Secretary of; Cuboid, Anerley; Messrs. Cooper and Co., Lond.; C. J. S.

D.—Mr. A. K. Dresser, Padstow; Mr. H. B. Daniell, Strood; Mr. H. R. Dutton, Chester; Mr. W. H. Date, Culmstock; Dr. Dewar, St. Helen's Auckland.

E.—Mr. E. B. Evans, Swansea; Mr. L. N. Edwards, Worcester; E. W. D.; E. C. W.; E. T. O'M.

F.—Mr. A. M. Fraser, Southsea; Messrs. Fletcher, Fletcher, and Co., Lond.; F. G. M.; F. J. McG.; F. S.; Dr. F., Guilsborough; F. M. B.

G.—Mr. R. A. L. Graham, Belfast; Glasgow Royal Infirmary, Secretary of; Grimsby News Co., Grimsby; Mr. T. H. Gill, Lond.; Galignani Library, Paris, Secretary of; G. M. M.

H—Dr. F. W. E. Hutchison, Kelvedon; Dr. A. W. Hawthorne, Carcoar, N.S.W.; Mr. F. V. Halliday, Christiana, Jamaica; H. M.; Dr. W. Hunter, Lond.; Dr. W. Hewison, Warkworth; Dr. H.; Mr. E. Huxley, Lond.; H. S.; Dr. G. Herschell, Lond.; Mr. E. Hughes, Ton Pentre; H. J. H.; Dr. J. Hamilton, Swadlincote.

J.—Mr. G. M. Jones, Alton; J. C.; J. F. B.; J. McN.; J. H. W.

K.—Dr. A. Kay, Motherwell; Kent and Canterbury Hospital, Secretary of; Messrs. Keith and Co., Edinburgh.

L.—Dr. J. H. Lightbody, Wybunbury; L. N. E.; L. B.

M.—Dr. J. Macdonald, Belford; Mr. F. P. Mackie, Bicton Heath; Medical, Lond.; M. C.; M. K.; Mr. W. L. G. Morgan, Boscombe; Medicus, Edinburgh; Mission of the American Board, Stamboul.

N.—Dr. J. H. Neale, Leicester; Mr. R. H. B. Nicholson, Hull; G. Newnes, Ltd., Lond.

O.—O. and D.

P.—Mr. J. L. Pinchin, Lond.; Mr. F. H. Partridge, King's Lynn.

R.—Mr. J. H. Rodgers, Cardiff; R. W. J.; R. H. C.

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